Acer Altos G530 Series

User's Guide

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Acer Altos G530 Series

Model Name :____________________________________

Part Number: ____________________________________

Purchase Date:____________________________________

Place of Purchase:________________________________

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Notices

FCC notice

Class A devices do not have an FCC logo or FCC IDE on the label. Class B devices have an FCC logo or FCC IDE on the label. Once the class of the device is determined, refer to the following corresponding statement.

Class A equipment

This device has been tested and found to comply with the limits for a Class A digital device pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy, and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at personal expense.

Class B equipment

This device has been tested and found to comply with the limits for a Class B digital device pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This device generates, uses, and can radiate radio frequency energy, and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this device does cause harmful interference to radio or television reception, which can be determined by turning the device off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna
- Increase the separation between the device and receiver
- Connect the device into an outlet on a circuit different from that to which the receiver is connected
- Consult the dealer or an experienced radio/television technician for help

Notice: Shielded cables

All connections to other computing devices must be made using shielded cables to maintain compliance with FCC regulations.

Notice: Peripheral devices

Only peripherals (input/output devices, terminals, printers, etc.) certified to comply with the Class A or Class B limits may be attached to this equipment. Operation with noncertified peripherals is likely to result in interference to radio and TV reception.

Caution! Changes or modifications not expressly approved by the manufacturer could void the user's authority, which is granted by the Federal Communications Commission, to operate this server.

Use conditions

This part complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Notice: Canadian users

This Class A/Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

Laser compliance statement

The CD-ROM drive in this server is a laser product. The CD-ROM drive's classification label (shown below) is located on the drive.

CLASS 1 LASER PRODUCT
CAUTION: INVISIBLE LASER RADIATION WHEN OPEN. AVOID EXPOSURE TO BEAM.

Important safety instructions

Read these instructions carefully. Save these instructions for future reference.

1. Follow all warnings and instructions marked on the product.
2. Unplug this product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.
3. Do not use this product near water.
4. Do not place this product on an unstable cart, stand, or table. The product may fall, causing serious damage to the product.
5. Slots and openings on the back or bottom side of the chassis are provided for ventilation; to ensure reliable operation of the product and to protect it from overheating, these openings must not be blocked or covered. The openings should never be blocked by placing the product on a bed, sofa, rug, or other similar surface. This product should never be placed near or over a radiator or heat register, or in a built-in installation unless proper ventilation is provided.
6. This product should be operated from the type of power indicated on the marking label. If you are not sure of the type of power available, consult your dealer or local power company.
7. Do not allow anything to rest on the power cord. Do not locate this product where persons will walk on the cord.
8. If an extension cord is used with this product, make sure that the total ampere rating of the equipment plugged into the extension cord does not exceed the extension cord ampere rating. Also, make sure that the total rating of all products plugged into the wall outlet does not exceed the fuse rating.
9. Never push objects of any kind into this product through chassis slots as they may touch dangerous voltage points or short out parts that could result in a fire or electric shock. Never spill liquid of any kind on the product.
10. Do not attempt to service this product yourself, as opening or removing covers may expose you to dangerous voltage points or other risks. Refer all servicing to qualified service personnel.
11. Unplug this product from the wall outlet and refer servicing to qualified service personnel under the following conditions:
    a. When the power cord or plug is damaged or frayed
    b. If liquid has been spilled on the product
    c. If the product has been exposed to rain or water

  d If the product does not operate normally when the operating instructions are followed. Adjust only those controls that are covered by the operating instructions since improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the product to normal condition.

  e If the product has been dropped or the cabinet has been damaged

  f If the product exhibits a distinct change in performance, indicating a need for service.

12 Replace the battery with the same type as the product's battery we recommend. Use of another battery may present a risk of fire or explosion. Refer battery replacement to a qualified service technician.

13 **Warning!** Batteries may explode if not handled properly. Do not disassemble or dispose of them in fire. Keep them away from children and dispose of used batteries promptly.

14 Use only the proper type of power supply cord set (provided in your accessories box) for this unit. It should be a detachable type: UL listed/CSA certified, type SPT-2, rated 7A 125V minimum, VDE approved or its equivalent. Maximum length is 15 feet (4.6 meters).

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1 System tour

The Acer Altos G530 server is a powerful dual-processor system loaded with a host of new and innovative features. The system offers a new standard for flexible productivity ideal for multimedia processing, intensive graphics applications, general business applications, email, web service, file clustering and print services.

Features summary

Listed below are the system's key features:

Processor

- Single or Dual Intel® Xeon™ processors with 1MB or 2MB L2 cache and 800 MHz front system bus
- Supports Intel® Hyper-Threading Technology
- Supports Intel® EM64T (Extended Memory 64 technology)

Chipset

- North bridge: Intel E7320 MCH (Memory Controller Hub)
- South bridge: Intel 6300ESB ICH I/O controller

Memory

- Supports up to four DIMM sockets for a maximum memory capacity of 8 GB
- Supports 512 MB, 1GB and 2GB DDR2-400 registered ECC memory modules
- Supports dual-channel memory bus
- Supports memory sparing technology
- Supports x4 SDDC (Single Device Data Correction)

Media storage

- Three 5.25-inch device bays supports:
    - 3.5-inch, 1.44 MB floppy drive
    - DVD-ROM, DVD-RW, DVD combo drive
    - DAT72 tape drive
    - AIT tape drive
    - LTO half-height tape drive

Optional media storage

- Hot-plug HDD cage
    - Supports up to four 80-pin Ultra320 SCSI hard disk drives
    - Supports up to four SATA 150/300 hard disk drives
- Easy-swap HDD cage
    - Supports up to four 68-pin SCSI hard disk drives
    - Supports up to four SATA 150/300 hard disk drives

Note: The main difference between a hot-plug HDD cage and an easy-swap HDD cage is the presence of a backplane board on the rear side of the hot-plug HDD cage.

SCSI controller

- Onboard SCSI: LSI® Logic 1020A Ultra320 SCSI controller
- Dual channel SCSI, SCSI RAID host bus adapter (optional)

SATA controller

- Onboard SATA: Intel 6300ESB ICH I/O controller supports dual channel SATA 150 ports
- Eight channel SATA RAID host bus adapter (optional)

RAID

- Software RAID 0, 1 for onboard SATA ports
- Software RAID 1 for onboard SCSI port

Networking

- Intel 82541PI Gigabit Ethernet controller
- Marvell Yukon 88E8050 PCI Express Gigabit Ethernet controller

PCI I/O

- Five PCI bus slots with three separate bus segments:
    - Two 32-bit/33 MHz PCI bus slots
    - Two 64-bit/66 MHz PCI-X bus slots
    - One x8 PCI Express bus slots (with x4 connectors)

Graphic interface

- ATI Rage® XL chipset with 8MB SDRAM

I/O ports

- Front panel
  - Two USB 2.0 ports
- Rear panel
  - PS/2 keyboard and mouse port
  - Two USB 2.0 ports
  - VGA/monitor port
  - Serial port
  - Two LAN ports (RJ-45)

Operating system and software

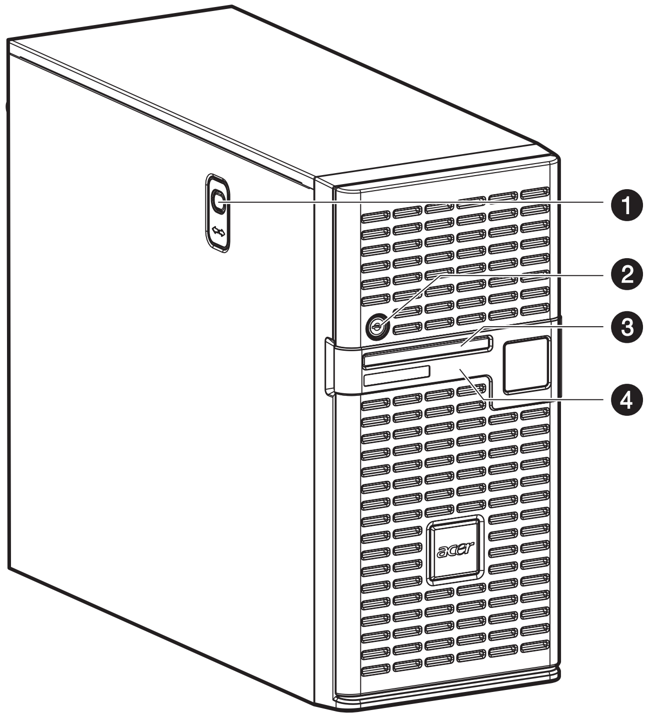
- Microsoft® Windows® Server 2003, X64 edition
- Microsoft Windows Server 2003
- Microsoft Windows 2000 Server (SP4)
- Novell® NetWare® 6.5
- Red Hat Enterprise Linux 3.0, EMT 64
- Red Hat Enterprise Linux 3.0
- SCO Openserver™ 5.0.7
- SCO Unixware® 7.1.4
- SUSE® Linux Enterprise Server 9.0
- SUSE Linux Enterprise Server 9.0 X86_64
- ASM (Acer Server Manager)
- EasyBUILD (includes SATA/SCSI RAID Configuration Utility)

Power supply

- 600-watt single standard (non-redundant) power supply
- 610-watt (1+1) redundant power supply (optional)

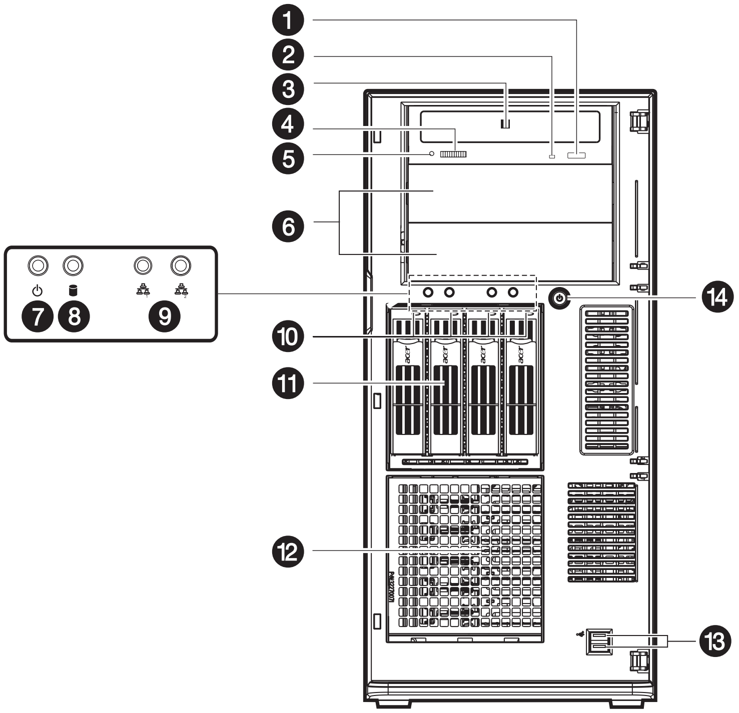
External and internal structure

Front bezel



No.	Component
1	Side panel release button
2	Security keylock
3	Front panel LED indicator
4	Bezel door

Front panel



No.	Icon	Component	Description
1		DVD/CD-ROM drive Stop/Eject button	Press this button to open the CD drive tray.
2		DVD/CD-ROM drive activity indicator	When the LED indicator is lit, there is activity in the CD drive.
3		DVD/CD-ROM drive	Disk drive for reading CD-ROMs.
4		Volume control	Adjusts the volume of the CD drive.
5		DVD/CD-ROM drive Headphone/ Earphone port	Connects to microphones or earphones.
6		5.25-inch drive bays	Two empty 5.25-inch drive bays allow installation of additional devices.
7	⏻	Power indicator [1]	Indicates AC power is present or system is turned on or off (green).

No.	Icon	Component	Description
8	⛁	Hard disk activity indicator [2]	Indicates the status of the system hard drive.
9	🖧 1	LAN activity indicator [3]	Indicates an active link on the LAN1 port (green).
	🖧 2	LAN activity indicator [4]	Indicates an active link on the LAN2 port (green).
10		Hot-plug HDD power indicator [5]	Indicates drive activity (green).
11		Four-bay hot-plug HDD cage	Houses four hot-plug or easy swap SCSI/SATA drives.
12		HDD cage bay	For additional storage options. Supports a four-bay hot-plug HDD cage.
13		USB ports	Connects to USB devices.
14		Power button	Press to turn on the system.

1, 2, 3, 4, 5 For more information about the status of the LED indicators, see Front panel LED indicators table on page 9.

Front panel LED indicators

Below table lists the LED states on the front panel.

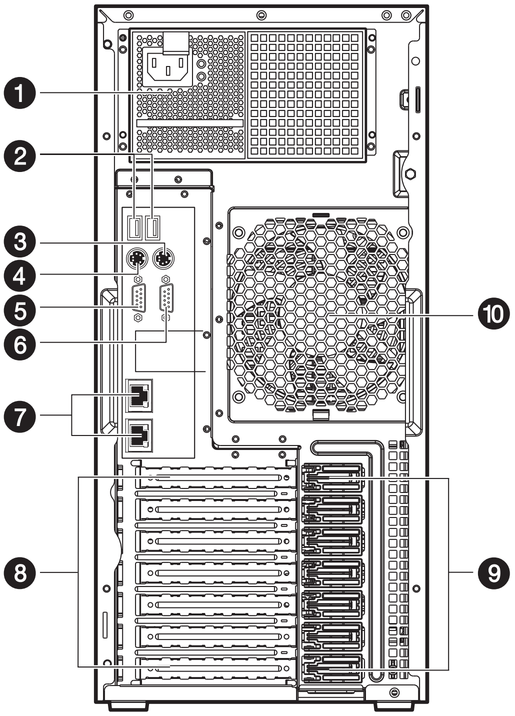
LED	Color	Status	Description
Power	Green	On	Power on
		Blinking	System in ACPI sleep mode.
HDD	Green	Blinking	HDD activity
		Off	No HDD activity
LAN1 and 2	Green	On	Network is established.
		Blinking	• Network activity. • Network is established and running at its supported speed.
		Off	Network link is not established.

Hot-plug HDD LED indicators

Below table lists the possible disk drive status.

HDD Status	Green	Amber	Description
HDD access	Blinking	—	HDD activity

Rear panel



No.	Icon	Component	Description
1		Power supply module bay	Allows installation of a redundant and non-redundant redundant power supply module. The hot-swap redundant power supply module may include three LEDs that will indicate its operating status. **Note:** If the system comes bundled with only a single redundant power supply module, you have the option to separately purchase an extra power supply module to provide the system with redundant power source.
2		USB ports	Connects to USB devices.
3	🖱	PS/2 mouse port	Connects to a PS/2 mouse.

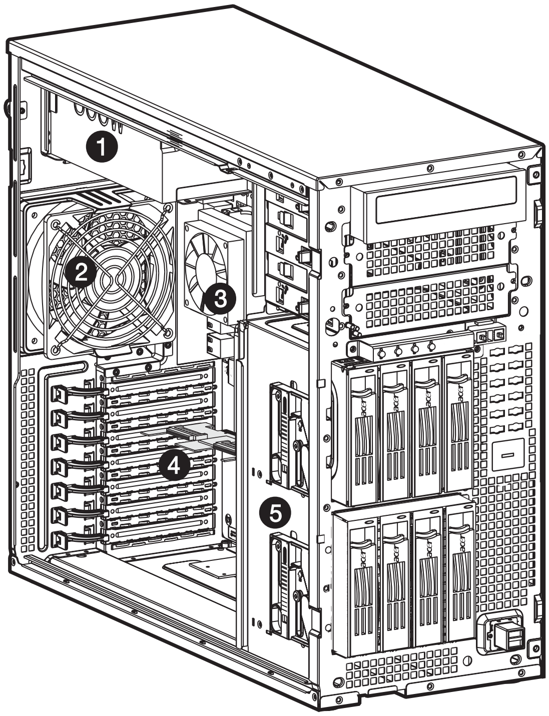
No.	Icon	Component	Description
4	⌨	PS/2 keyboard port	Connects to a PS/2 keyboard.
5	🖵	VGA/monitor port	Connects to monitors.
6	IOIOI	Serial port	Connects to serial devices.
7	🖧 🖧	Gigabit LAN ports (10/100/ 1000 Mbps)	Connects to network cables.
8		Expansion slots	For installing expansion cards.
9		PCI slot lock lever	Secures the PCI card to the system.
10		Rear system fan	Optimizes system airflow.

Rear panel LED indicators

Below table lists the LED states on the LAN port.

LED	Green	Yellow	Status
Link	On	—	• Indicates 100MBps Ethernet operation. • Network link is established.
	Blinking	—	Indicates transmission or reception of data in the network.
	Off	—	• Indicates 10 MBps Ethernet operation. • Network link is not established. • The LAN cable is not working.
Activity	—	On	Indicates 1000 MBps Ethernet operation.
	—	Off	Network is idle.

Internal components



No.	Component
1	Power supply module (600 or 610-watts) [1]
2	Rear system fan
3	Mainboard, CPU and heat sink fan assembly
4	PCI bus slot
5	Four-bay hot-plug HDD cage

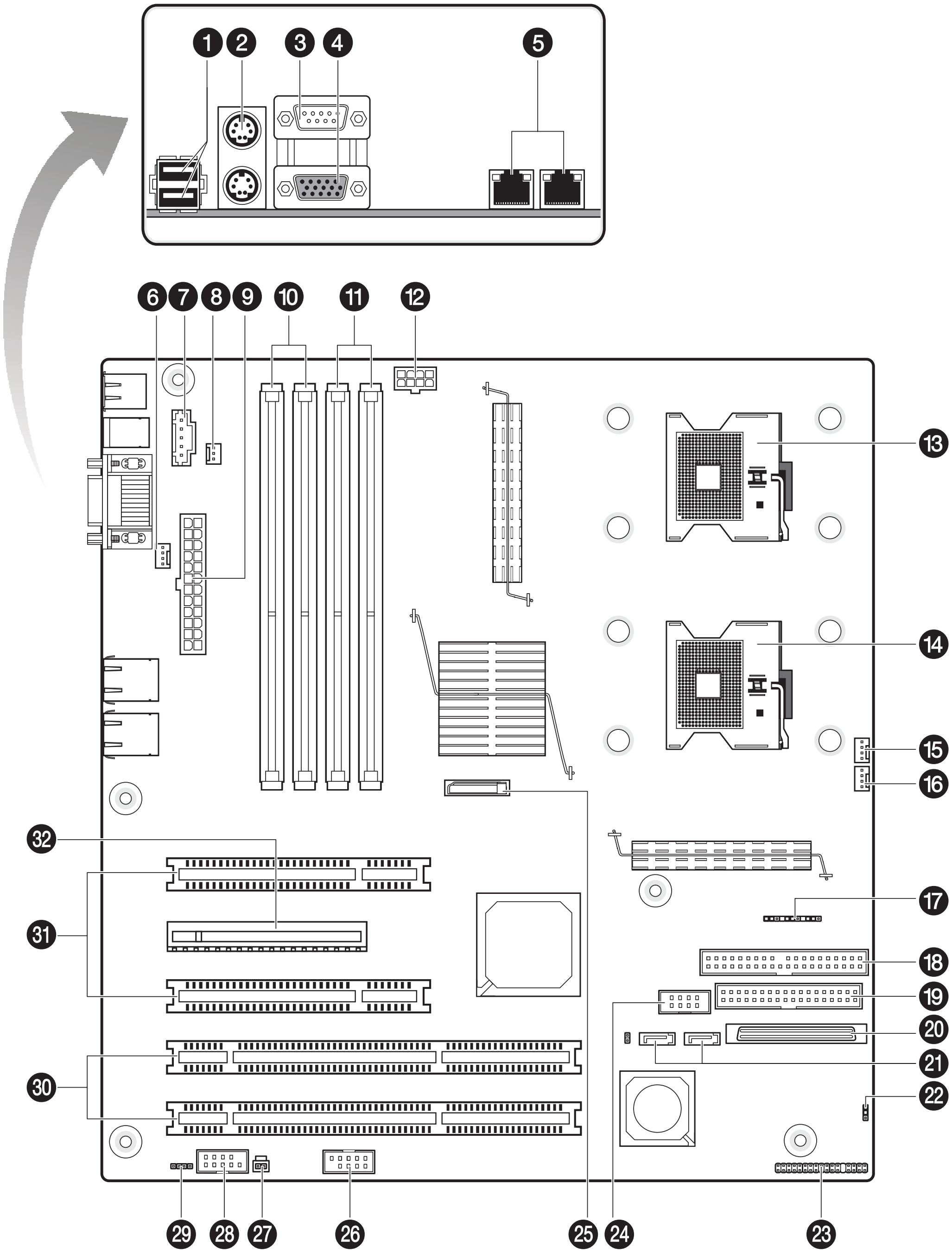
---

[1] The system supports a redundant or non-redundant power supply module. If the system comes bundled with a single 610-w redundant power supply module, you have the option to purchase an extra power supply module to provide the system with a redundant power source.

System boards

Mainboard layout

The mainboard becomes accessible once you open the system. It should look like the figure shown below.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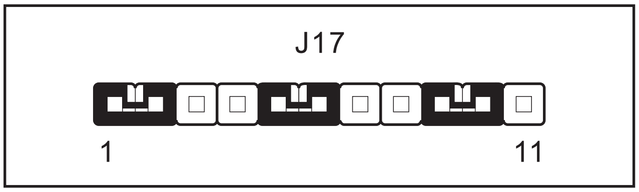
No.	Code	Description
1	USB_1~2	USB ports
2	MS/KB	Top: PS/2 mouse port Bottom: PS/2 keyboard port
3	SERIAL A	Serial A port
4	VGA	VGA/monitor port
5	JA2 NIC_1	Gigabit LAN 1 port (RJ-45)
	JA1 NIC_2	Gigabit LAN 2 port (RJ-45)
6	SYS_FAN_1	System fan 1 connector
7	P/S AUX SIG	Auxillary power supply signal connector
8	SYS_FAN_2	System fan 2 connector
9	MAIN PWR	Power supply connector
10	DIMM_1B - 1A	DIMM 1B to 1A sockets
11	DIMM_2B - 2A	DIMM 2B to 2A sockets
12	CPU PWR	CPU power supply connector
13	CPU_1	CPU 1 socket
14	CPU_2	CPU 2 socket
15	CPU_1 FAN	CPU 1 fan connector
16	CPU_2 FAN	CPU 2 fan connector
17	J17	Clear CMOS, Clear password and Recovery boot jumper
18	PRIMARY IDE	Primary IDE connector
19	FLOPPY	FDD connector
20	LVD SCSI CH A	SCSI channel connector

No.	Code	Description
21	SATA_A1- A2	SATA connectors
22	HSBP_B	Hot-plug backplane connector
23	J38	Front panel LED connector
24	I^2C	I^2C connector (reserved for ARMC/2)
25	BATTERY	CMOS Battery
26	USB3~4	USB 3 and 4 connector
27	J19	Chassis intrusion connector
28	SERIAL B	Serial B connector
29	J26	SCSI LED connector
30	SLOT_1 and 2	PCI-X slots (64-bit/66 MHz)
31	SLOT_3 and 5	PCI slots (32-bit/33 MHz)
32	SLOT_4	x8 PCI-Express slot (with x4 throughput)

Jumper settings

J17 jumper

The J17 jumper provides a total of 3-pin blocks that are used to configure several system recovery and update options.

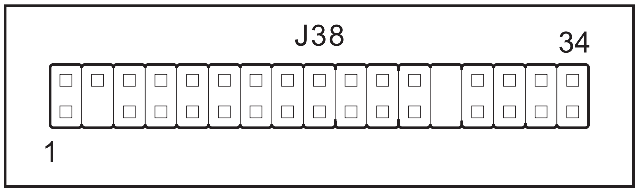


The table below lists each jumper option

Pin no.	Pin function	Description
1-2 2-3	Normal boot (default) Force erase	Clear CMOS settings
5-6 6-7	Protect (default) Erase	Clear password settings
9-10 10-11	Normal boot (default) Recovery boot	Recovery boot settings

J38 jumper

The J38 jumper is a standard SSI 34-pin header that supports the system front panel.



The following below lists the pin-out of the J38 header.

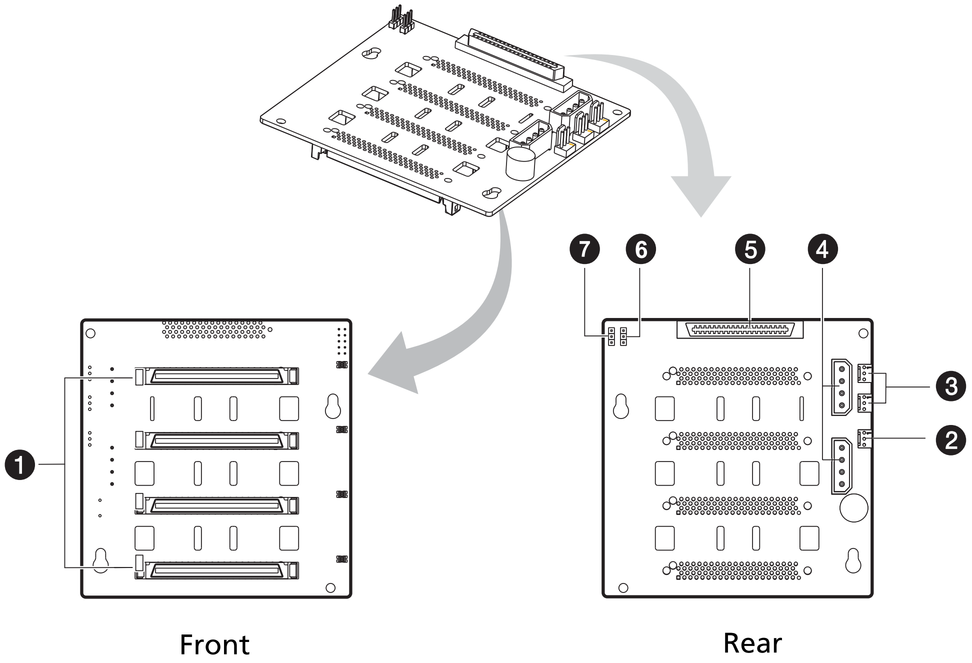
Pin no.	Signal name	Pin no.	Signal name
1	ACPI LED gm	2	SB5V
3	Key	4	Fan fault LED* (no support)
5	ACPI LED amber	6	Fan fault LED* (no support)
7	HDD LED	8	System fault LED*
9	NMI button	10	System fault LED*
11	ACPI switch	12	LAN 1 Activity LED
13	ACPI switch (GND)	14	LAN 1 Activity LED#
15	Reset switch	16	SMB SDA
17	Reset switch (GND)	18	SMB SCL
19	Sleep switch* (no support)	20	Intruder*
21	Sleep switch (GND)	22	LAN 2 Activity LED
23	NMI switch#	24	LAN 2 Activity LED#
25	Key	26	Key
27	NC	28	NC
29	NC	30	NC
31	NC	32	NC
33	NC	34	NC

* and NC = No connection

Backplane board layout

The backplane board attached to the four-bay hot-plug HDD cage provides a convenient interface between the SCSI or SATA drives and the mainboard.

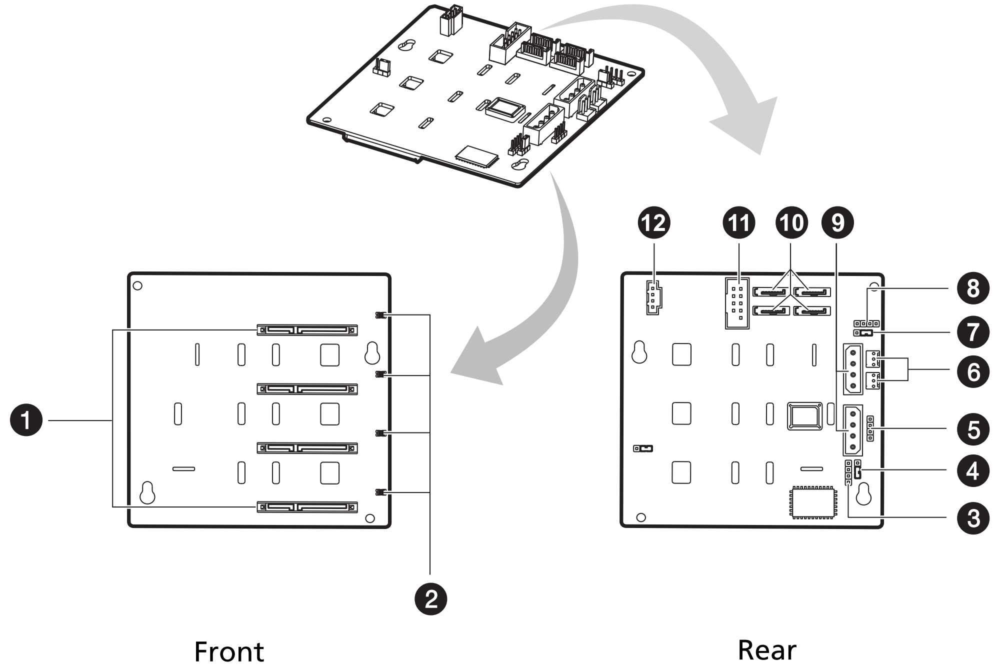
SCSI backplane board layout



No.	Code	Description
1		SCSI HDD connectors
2	W83792D_ID1	792D_ID1 ADDR select jumper Jumper setting: Short 1-2 — 5EH (default) Short 2-3 — 5AH
3		3-pin fan connector
4		4-pin power cable connector
5		68-pin SCSI data cable connector

No.	Code	Description
6	J3	LED indicator jumper Jumper setting: Short 1-2 — Link LED on Short 2-3 — Link LED dark
7	SAF-TE ID	SAF-TE ID jumper Jumper setting: Short 1-2 — ID8 (default) Short 2-3 — ID6

SATA backplane board layout



No.	Code	Description
1		SATA HDD connectors
2		SAF-TE heartbeat LED and Manufacturing function jumper
3	JP2	Debug connector
4	J1	Backplane no. jumper Jumper setting: Short 1-2 — 1st BPB (backplane board) Short 2-3 — 2nd BPB
5	JP1	ICMB (Intelligent Chassis Management Bus) connector
6	FAN1 and FAN2	Fan connectors

No.	Code	Description
7	792D_ID1	792D_ID1 ADDR select jumper Jumper setting: Short 1-2 — 5EH (default) Short 2-3 — 5AH
8	J3	IPMB (Intelligent Platform Management Bus) connector (reserved for SATA RAID card)
9	CN1 and CN2	4-pin power cable connector
10	SATA_CON0 to SATA CON3	SATA data cable connectors
11	J4	Cascade connector
12	J5	I^2C bus interface connector

2 System setup

This chapter gives you instructions on how to set up the system. Procedures on how to connect peripherals are also explained.

Setting up the system

Pre-installation requirements

Selecting a site

Before unpacking and installing the system, select a suitable site for the system for maximum efficiency. Consider the following factors when choosing a site for the system:

- Near a grounded power outlet
- Clean and dust-free
- Stable surface free from vibration
- Well-ventilated and away from sources of heat
- Secluded from electromagnetic fields produced by electrical devices such as air conditioners, radio and TV transmitters, etc.

Checking the package contents

Check the following items from the package:

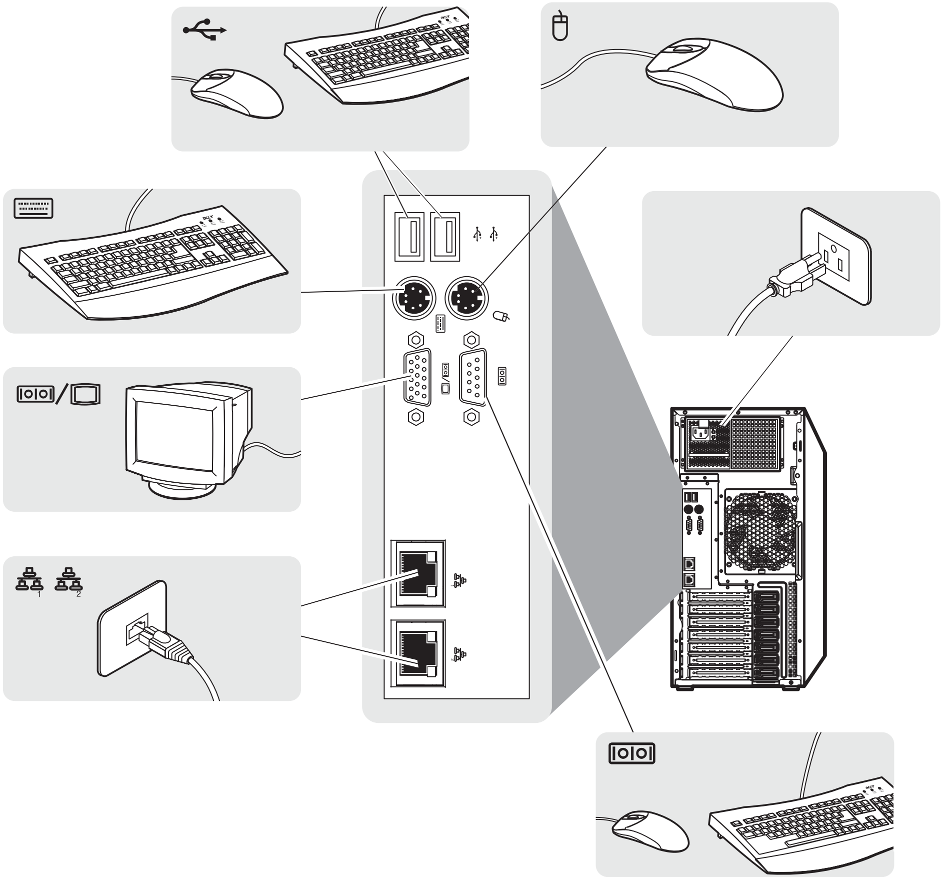
- Acer Altos G530 system
- Acer EasyBUILD™
- Acer Altos G530 accessory box
- System keys

If any of the above items are damaged or missing, contact your dealer immediately.

Save the boxes and packing materials for future use.

Connecting peripherals

Refer to the illustration below for specific connection instructions on the peripherals you want to connect to the system.



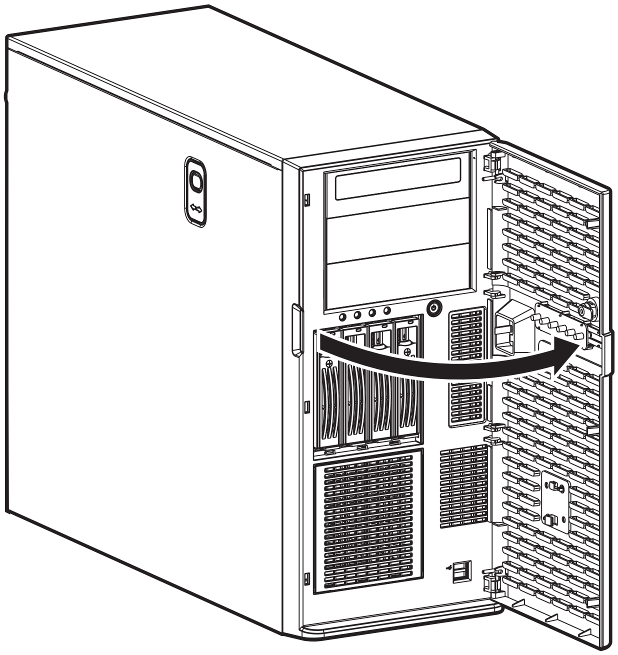
Note: Consult the operating system manual for information on how to configure the network setup.

Turning on the system

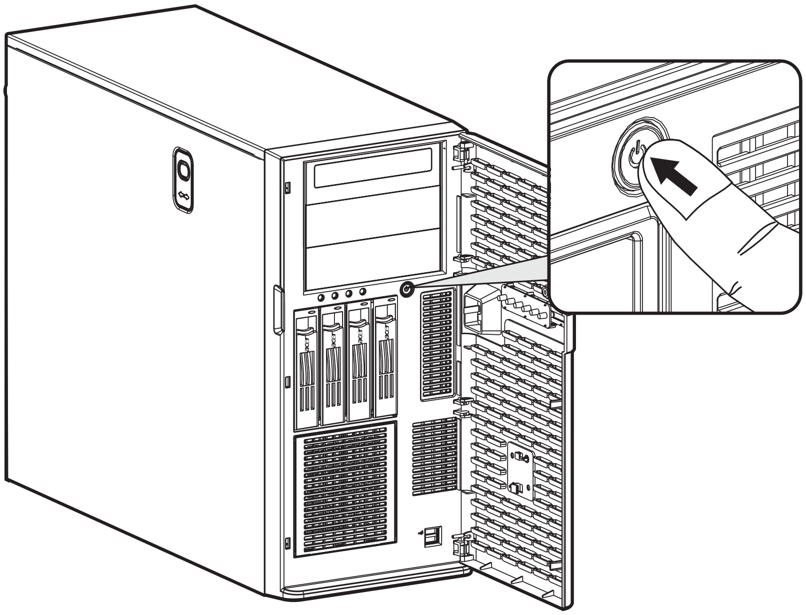
After making sure that you have properly set up the system and connected all the required cables, you can now power on the system.

To power on the system:

1 Open the bezel door.



2 Press the power button.



The system starts up and displays a welcome message on the monitor. After that, a series of power-on self-test (POST) messages appears. The POST messages indicate if the system is running well or not.

Note: If the system does not turn on or boot after pressing the power button, go to the next section for the possible causes of the boot failure.

Aside from the POST messages, you can determine if the system is in good condition by checking if the following occurred:

- Power indicator on the front panel lights up (green)
- Num Lock, Caps Lock, and Scroll Lock indicators on the keyboard light up

Power-on problems

If the system does not boot after you have applied power, check the following factors that might have caused the boot failure.

- The external power cable may be loosely connected.

  Check the power cable connection from the power source to the power cable socket on the rear panel. Make sure that the cable is properly connected to the power source and to the power cable socket.

- No power comes from the grounded power outlet.

  Have an electrician check your power outlet.

- Loose or improperly connected internal power cables.

  Check the internal cable connections. If you are not confident to perform this step, ask a qualified technician to assist you.

Warning! Make sure all power cords are disconnected from the electrical outlet before performing this task.

Note: If you have gone through the preceding actions and the system still fails to boot, ask your dealer or a qualified technician for assistance.

Configuring the system OS

The Altos G530 comes with Acer EasyBUILD™ that allows you to conveniently install your choice of operating system. To start using EasyBUILD, follow the steps below.

1 Locate the EasyBUILD System CD included in the system package.

2 With the system turned on, gently press the CD-ROM drive Stop/ Eject button.

3 When the disc tray slides open, insert the EasyBUILD System CD with the label or title side of the disc facing upward.

Note: When handling the disc, hold it by the edges to avoid smudges or fingerprints.

4 Gently press the disc down to make sure that it is properly inserted.

Caution! While pressing the disc, be careful not to bend the disc tray. Make sure that the disc is properly inserted before closing the disc tray. Improper insertion may damage both the disc and the CD-ROM drive.

5 Gently press the drive Stop/Eject button again to close the disc tray.

6 The Acer EasyBUILD sequence begins. Follow all onscreen instructions.

For more information, refer to the EasyBUILD Installation guide.

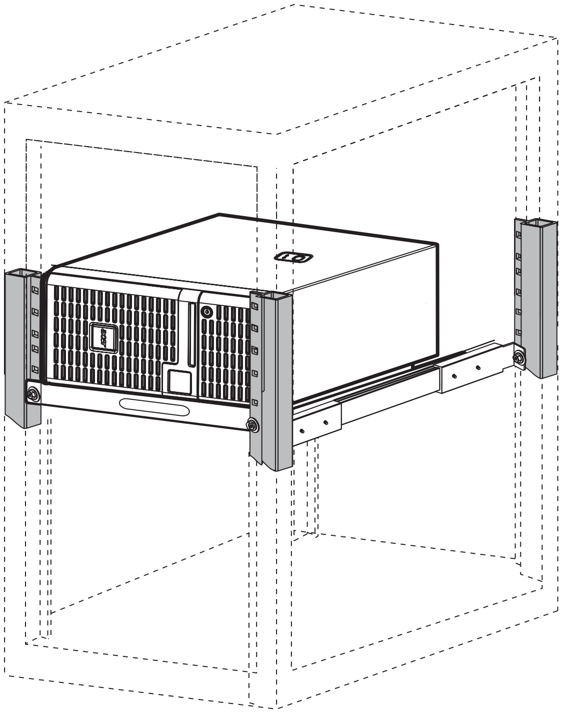
Note: EasyBUILD System CD supports Windows 2000, Windows Server 2003 and Red Hat Linux operating system only.

Windows or Linux OS CD is needed when you install the OS with the EasyBUILD System CD.

Server setup

Aside from its tower configuration, the Altos G530 server system can also be mounted in a rack-model position. A rack mount kit is available for customers who want to convert a tower-mounted system to rack-model design. To purchase a rack mount kit, contact your local Acer representative or order directly from http://www.acer.com/.

The figure below shows the Altos G530 server in a rack-mount position.



For instructions on tower-to-rack configuration, refer to “Appendix B: Acer Altos G530 rack installation guide” on page 151.

Turning off the system

There are two ways by which you can turn off the server. These include:

To turn off the server, on the Windows taskbar click on the **Start** button, point to **Shut Down...**, select **Shut down** from the drop-down window then click on **OK**. You can then turn off all peripherals connected to your server.

If you cannot shut down the server, press the power button for at least four seconds. Quickly pressing the button may put the server in a Suspend mode only.

3 System upgrade

This chapter discusses the precautionary measures and installation procedures you need to know when upgrading the system.

Installation precautions

Before you install any server component, we recommend that you read the following sections. These sections contain important ESD precautions along with pre-installation and post-installation instructions.

ESD precautions

Electrostatic discharge (ESD) can damage the processor, disk drives, expansion boards, motherboard, memory modules and other server components. Always observe the following precautions before you install a server component:

1. Do not remove a component from its protective packaging until you are ready to install it.
2. Wear a wrist grounding strap and attach it to a metal part of the server before handling components. If a wrist strap is not available, maintain contact with the server throughout any procedure requiring ESD protection.

Pre-installation instructions

Perform the steps below before you open the server or before your remove or replace any component:

1. Turn off the system and all the peripherals connected to it.
2. Unplug all cables from the power outlets.
3. Place the system unit on a flat, stable surface.
4. Open the system according to the instructions on page 37.
5. Follow the ESD precautions described in this section when handling a server component.
6. Remove any expansion board(s) or peripheral(s) that block access to the DIMM slots or other component connector.

See the following sections for specific installation instructions on the component you want to install.

Warning! Failure to properly turn off the server before you start installing components may cause serious damage. Do not attempt the procedures described in the following sections unless you are a qualified service technician.

Post-installation instructions

Perform the steps below after installing a server component:

1. See to it that all components are installed according to the described step-by-step instructions.
2. Reinstall any expansion board(s) or peripheral(s) that you have previously removed.
3. Reinstall the chassis panels.
4. Connect the necessary cables.
5. Turn on the system.

Opening the server

Caution! Before you proceed, make sure that you have turned off the system and all peripherals connected to it. Read the "Pre-installation instructions" on page 35.

You need to open the server before you can install additional components. The front bezel and left-side panel are removable to allow access to the system's internal components. Refer to the following sections for instructions.

Removing the left-side panel

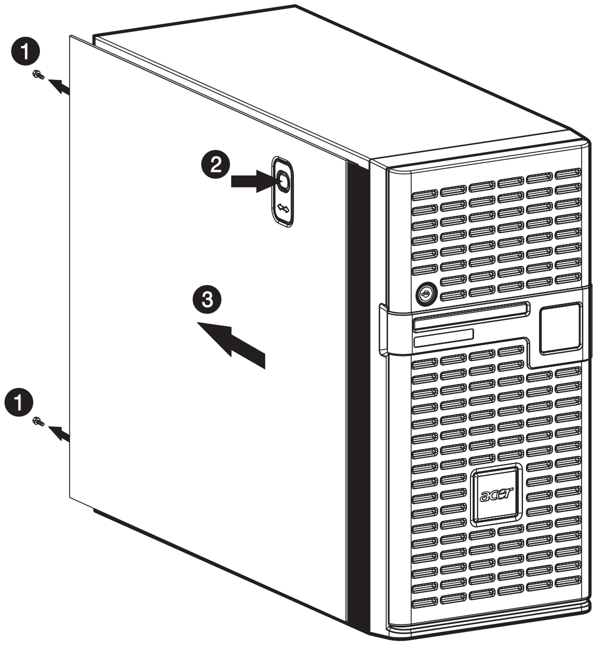
1 Observe the ESD precautions and pre-installation instructions described on page 35.

2 Remove the left-side panel.

  (1) Remove the two screws located on the rear edge of the left-side panel **(1)**.

  (2) Press the left-side panel release button **(2)**.

  (3) Slide the left-side panel toward the rear of the chassis **(3)**.



Opening the bezel door

A security lock secures the bezel door to protect the system unit from unauthorized access.

To open the bezel door:

1 Insert the key into the lock and turn it clockwise until it points to the unlock icon 🔓.

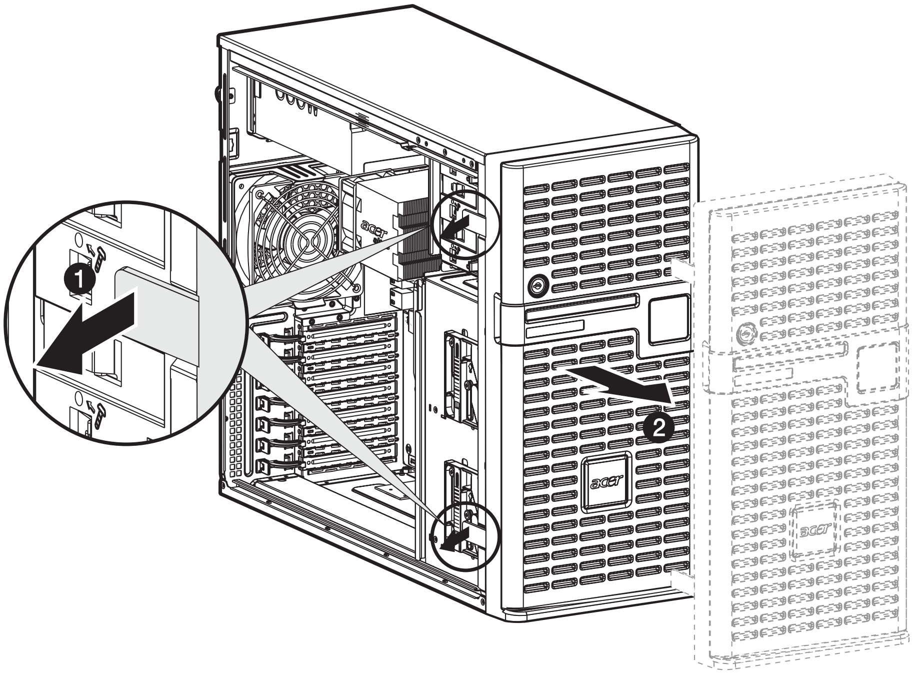
2 Pull open the bezel door.

Removing the front bezel

1 Remove the left-side panel. See page 37.

2 Slightly bend the plastic retention tabs to release the latches **(1)**.

3 Gently detach the bezel from the chassis **(2)**.

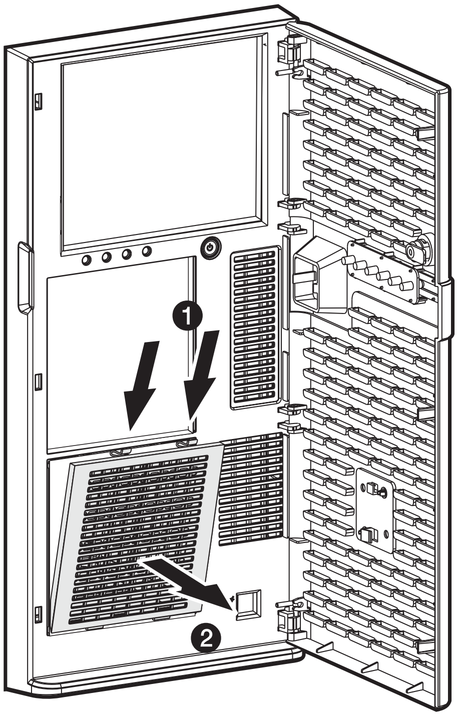


Removing the HDD cage bay cover

1 Open the bezel door.

2 Push down the HDD cage bay cover **(1)**.

3 Detach the HDD cage bay cover from the front bezel **(2)**.



Configuring the four-bay HDD cage

This section explains how to install a four-bay hot-plug HDD cage as well as procedures on how to install a hard disk into the cage's hard disk carrier.

Installing the four-bay HDD cage

The Altos G530 has two HDD cage bays that accept the following HDD cages:

- Hot-plug SCSI HDD cage
- Easy-swap SCSI HDD cage
- Hot-plug SATA HDD cage
- Easy-swap SATA HDD cage

The main difference between a hot-plug HDD cage and an easy-swap HDD cage is the presence of a backplane board on the rear side of the hot-plug HDD cage.

The system ships out with only a single four-bay SCSI or SATA HDD cage leaving one bay empty. You have the option to purchase an extra cage to provide the system with additional storage capacity and scalability. Contact your local Acer representative for more information.

Note: When installing a hot-plug or easy-swap SCSI or SATA HDD cage in the system, you can use either the onboard SCSI channel (LVD SCSI CH A) or SATA (SATA_A1 or A2) connectors, or you can install a SCSI/SATA RAID card. The SCSI/SATA RAID card should be Acer-qualified, compatible with the system and include appropriate drivers. Refer to page 70 for intructions on how to install a RAID card.

Refer to the "Mainboard layout" on page 14 for the location of the SCSI channel or SATA connectors.

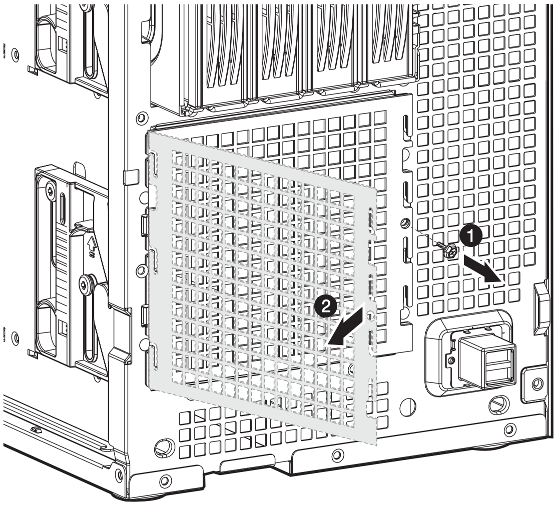
To purchase a SCSI or SATA RAID card, contact your local Acer representative or order directly from http://www.acer.com/.

To install the hot-plug SCSI HDD cage:

1 Observe the ESD precautions and pre-installation instructions described on page 35.

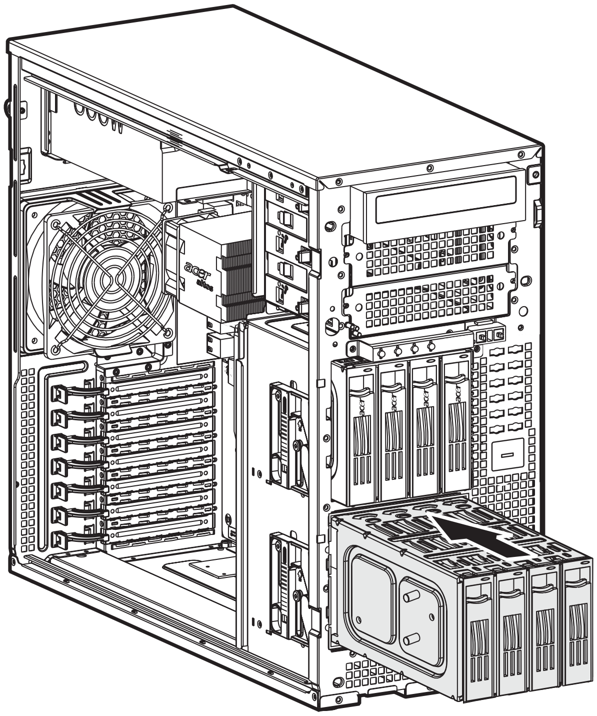
2 Remove the HDD cage bay cover. See page 39.

3 Remove the screw that secures the cover to the empty HDD bay **(1)**, then detach the cover **(2)**.



4 Install the hot-plug cage.

(1) Slide the cage into the chassis with the backplane board facing the rear of the chassis. The cage is locked to the chassis with an audible click.

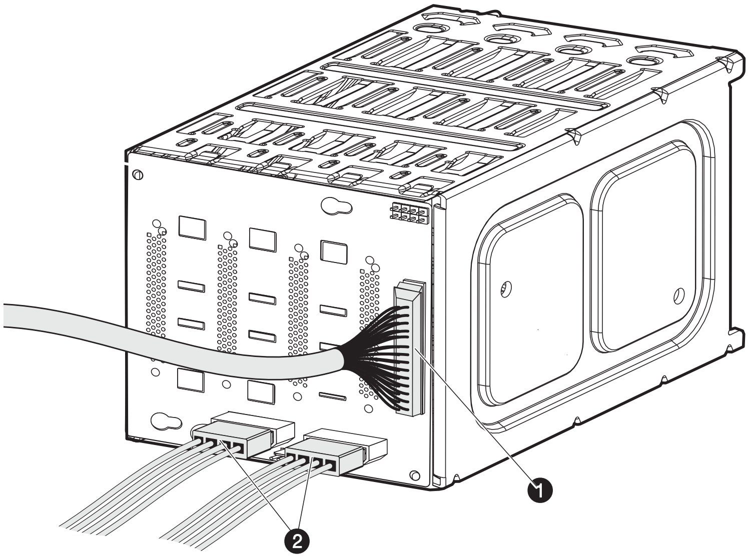


(2) Locate and attach the following cables clamped on the side of the chassis to their corresponding connectors on the backplane board:

Important: If a four-bay hot-plug SCSI HDD cage is already installed in the top HDD bay, you must block the W83792D_ID1 jumper. Set pins 2 and 3 to short.

(1) SCSI data cable

(2) SCSI HDD power cables



5 Observe the post-installation instructions described on page 36.

Important: When you are detaching the hot-plug HDD cage from the chassis, make sure to first remove all hard disks from their carriers. For instructions, see “Installing an additional hard disk into the HDD cage carrier” on page 53.

6 Change the RAID configuration of your hard disk. For details on how to change the RAID configuration of your hard disk, go to “Appendix D: SCSI RAID configuration” on page 173.

To install the easy-swap SCSI HDD cage:

The easy-swap SCSI HDD cage is an optional four-bay internal HDD enclosure without a SCSI backplane board.

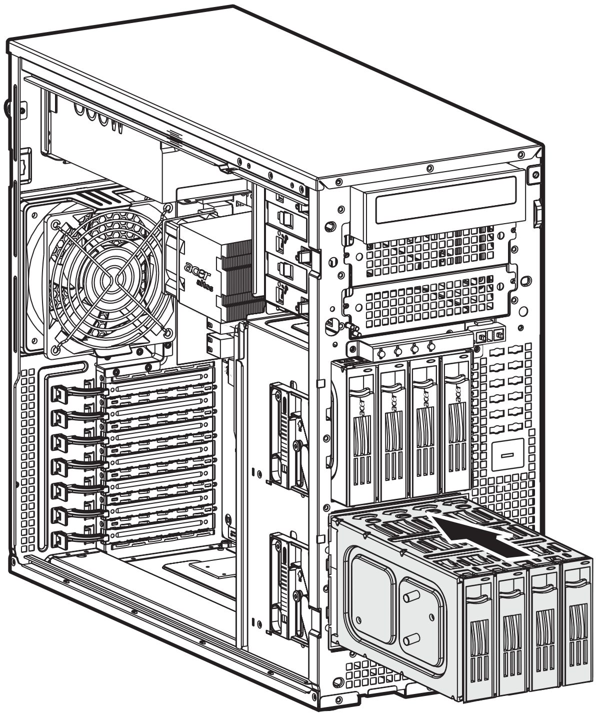
1 Observe the ESD precautions and pre-installation instructions described on page 35.

2 Remove the HDD cage bay cover. See page 39.

3 Remove the screw that secures the cover to the empty HDD bay, then detach the cover.

4 Install the easy-swap cage.

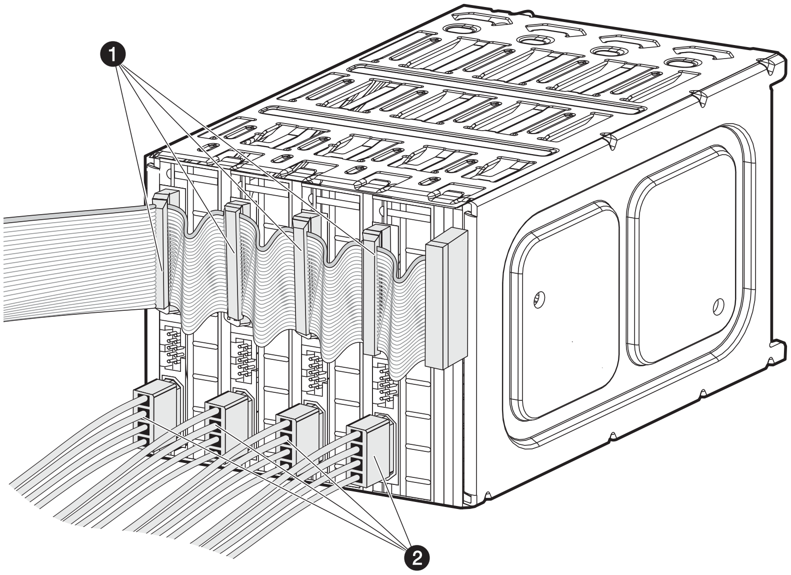
 (1) Slide the cage into the chassis. The cage is locked to the chassis with an audible click.



 (2) Locate and attach the following cables to their corresponding connectors on the SCSI hard drive and SCSI RAID card. For instructions on how to install a SCSI RAID card see page 70.

  (1) SCSI data cable

(2) SCSI HDD power cables



5 Observe the post-installation instructions described on page 36.

Important: When you are detaching the easy-swap cage from the chassis, make sure to first remove all cables attached to the hard disks.

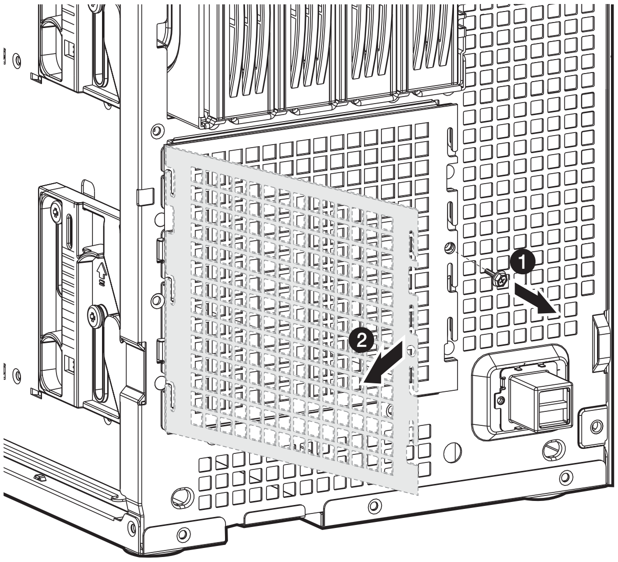
6 Change the RAID configuration of your hard disk. For details on how to change the RAID configuration of your hard disk, go to "Appendix D: SCSI RAID configuration" on page 173.

To install the hot-plug SATA HDD cage:

1 Observe the ESD precautions and pre-installation instructions described on page 35.

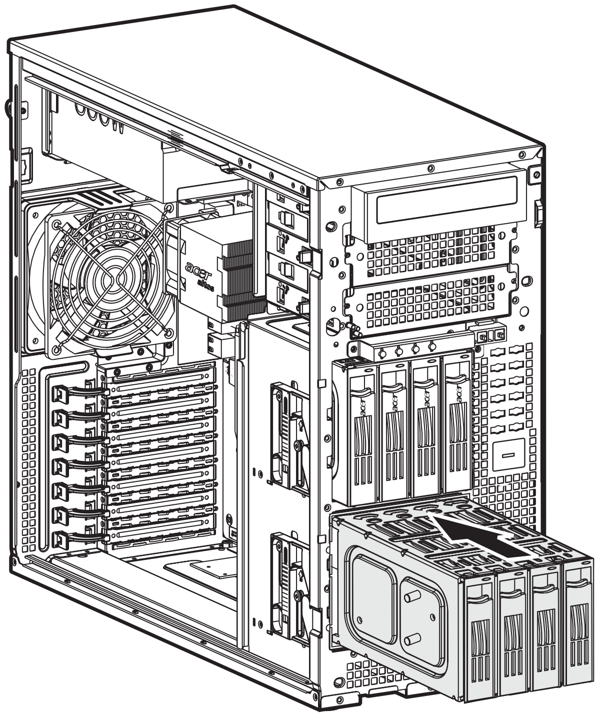
2 Remove the HDD cage bay cover. See page 39.

3 Remove the screw that secure the cover of the empty HDD bay, then detach the cover.



4 Install the hot-plug cage.

(1) Slide the cage into the chassis. The cage is locked to the chassis with an audible click.



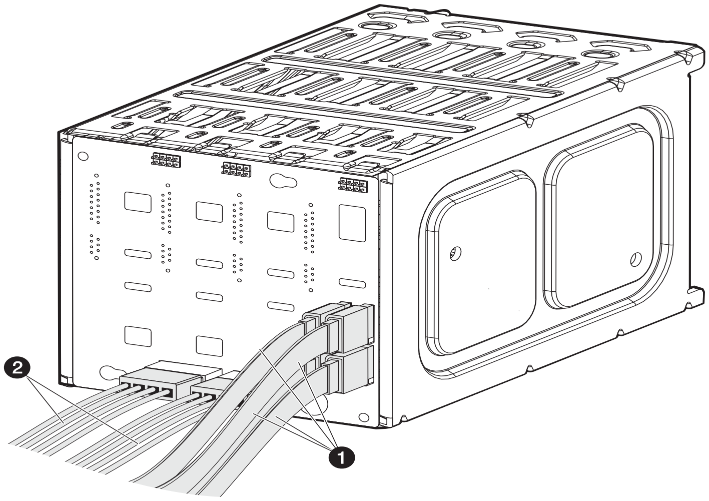
5 Connect the following cables to their corresponding connectors on the SATA RAID backplane board, mainboard and adapter:

Important: If a four-bay hot-plug SATA HDD cage is already installed in the top HDD bay, you must block the J1 jumper. Set pins 2 and 3 to short.

(1) Attach the SATA data cable to the SATA HDD connector on the backplane board **(1)**, then connect the other end of the cable to the SATA connector on the SATA RAID card.

Note: SATA connectors on the controller are keyed. Make sure the SATA data cables are properly connected to its corresponding connectors on the SATA RAID card.

(2) Attach the system's power cable to the SATA power cable connector on the backplane board **(2)**.



Note: The SATA RAID data cables must be installed and removed in the following order: SATA0, SATA1, SATA2, then SATA3.

6 Observe the post-installation instructions described on page 36.

Important: When you are removing the hot-plug cage from the chassis, make sure to first remove all hard disks from their carriers. For instructions, see "Installing an additional hard disk into the HDD cage carrier" on page 53.

7 Change the RAID configuration of your hard disk. For details on how to change the RAID configuration of your hard disk, go to "Appendix C: SATA RAID configuration" on page 167.

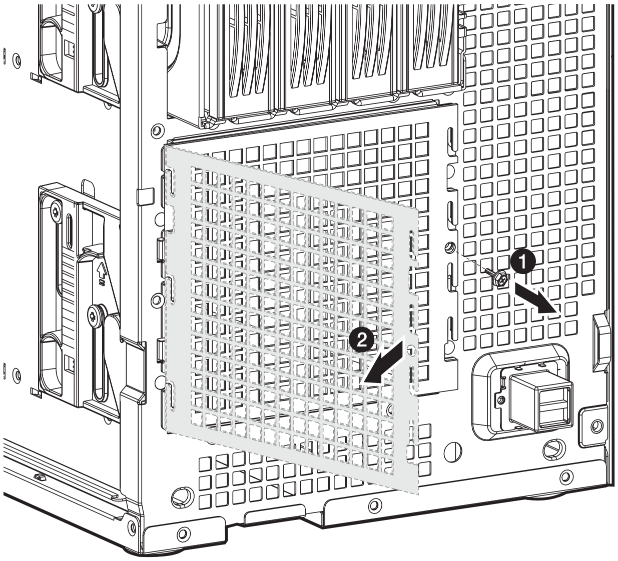
To install the easy-swap SATA HDD cage:

The easy-swap SATA HDD cage is an optional four-bay internal HDD enclosure without a SATA backplane board.

1 Observe the ESD precautions and pre-installation instructions described on page 35.

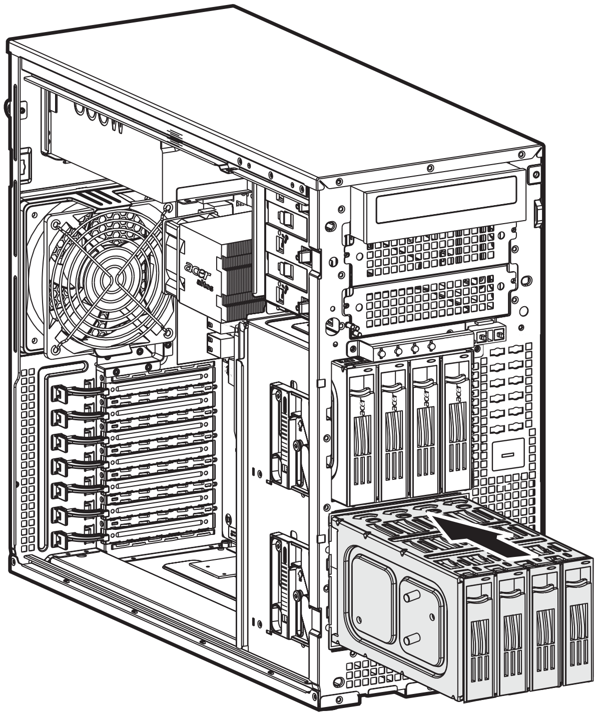
2 Remove the HDD cage bay cover. See page 39.

3 Remove the screw that secures the cover to the empty HDD bay, then detach the cover.

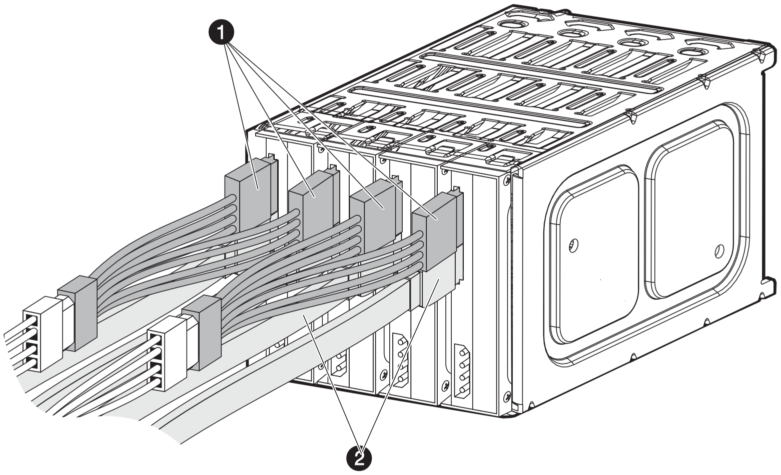


4 Install the easy-swap cage.

(1) Slide the cage into the chassis. The cage is locked to the chassis with an audible click.



(2) Locate and attach the power **(1)** and SATA **(2)** cables to their corresponding connectors on the hard drives and SATA RAID card.



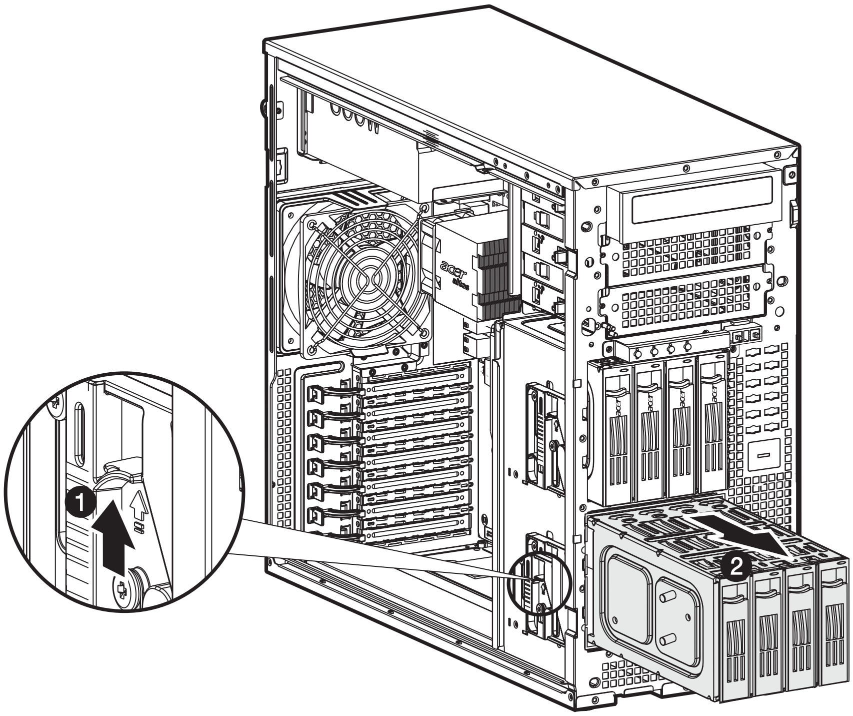
5 Observe the post-installation instructions described on page 36.

Important: When you are removing the easy-swap cage from the chassis, make sure to first remove all cables attached to the hard disks.

6 Change the RAID configuration of your hard disk. For details on how to change the RAID configuration of your hard disk, go to “Appendix C: SATA RAID configuration” on page 167.

Removing the four-bay HDD cage

1. Observe the ESD precautions and pre-installation instructions described on page 35.
2. Disconnect the data and power cables from the backplane board.
3. Move the release slider all the way up to eject the hot-plug or easy swap HDD cage **(1)**.
4. Remove the cage from the HDD bay **(2)**.



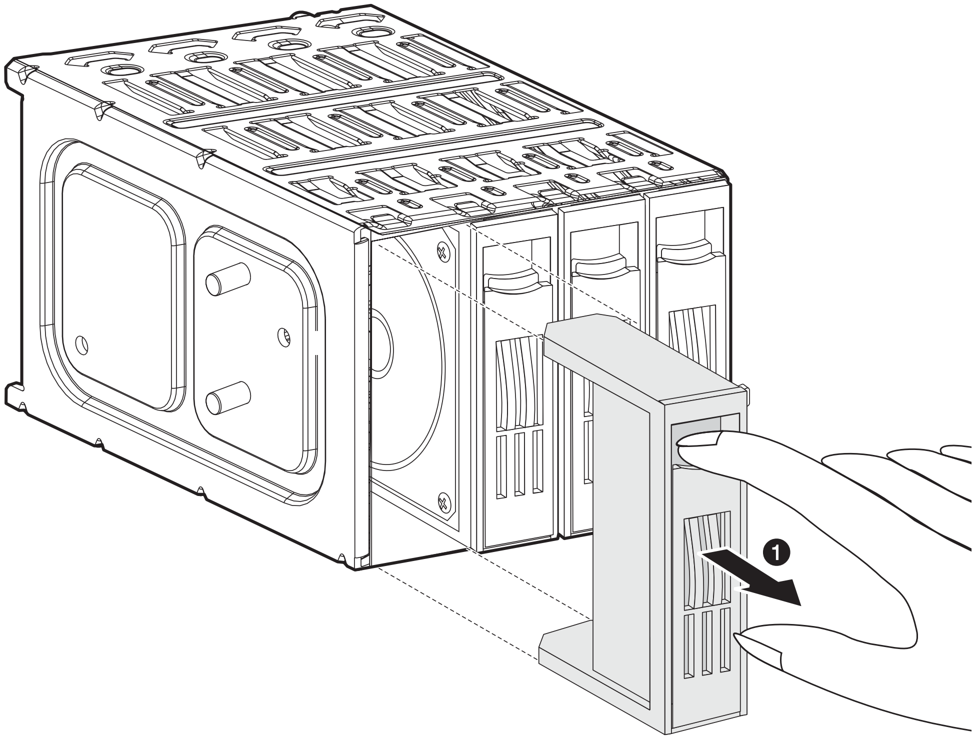
5. Observe the post-installation instructions described on page 36.

Installing an additional hard disk into the HDD cage carrier

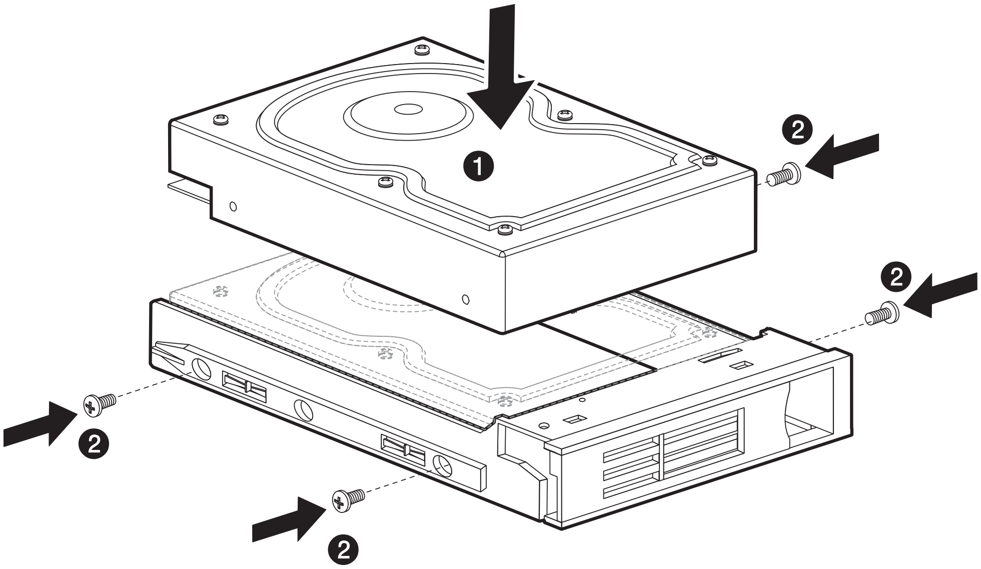
Note: To purchase a hard disk carrier, contact your local Acer representative.

Important: You need not remove the four-bay hot-plug HDD cage from the chassis to install a hard disk into its carrier.

1 Carefully pull out the hard disk carrier cover **(1)**.

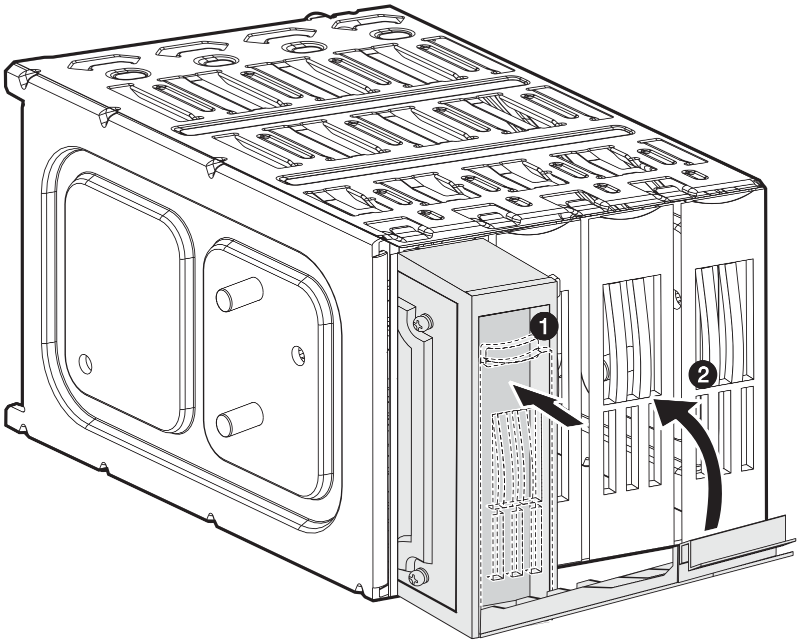


2 Install a hard disk on the hard disk carrier **(1)**, then secure it with the four screws that came with the hard disk carrier **(2)**.



3 Insert the new hard disk carrier into the cage with the lever still extended **(1)**.

4 Make sure that the drive is properly inserted before closing the lever, then push the lever back until it clicks into place **(2)**. .

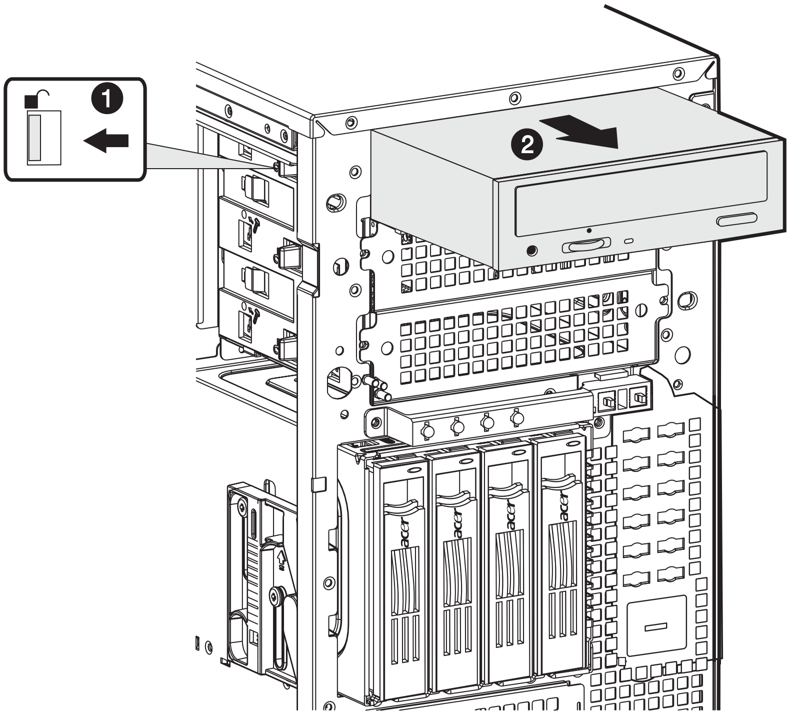


Replacing the CD-ROM drive

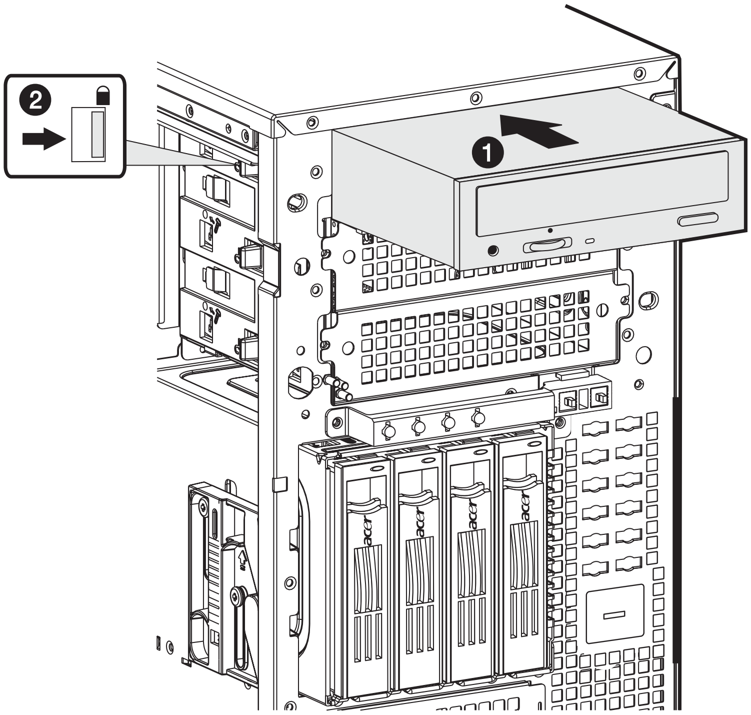
1 Observe the ESD precautions and pre-installation instructions described on page 35.

2 Disconnect the power and IDE cables from the old drive.

3 Push the lever in the direction of the unlock icon 🔓 **(1)**, then pull the drive out of the chassis **(2)**.



4 Install a new 5.25-inch drive into the drive bay **(1)**, then push the lever in the direction of the lock icon 🔒 **(2)**.



5 Connect the power and IDE cables to the new drive.

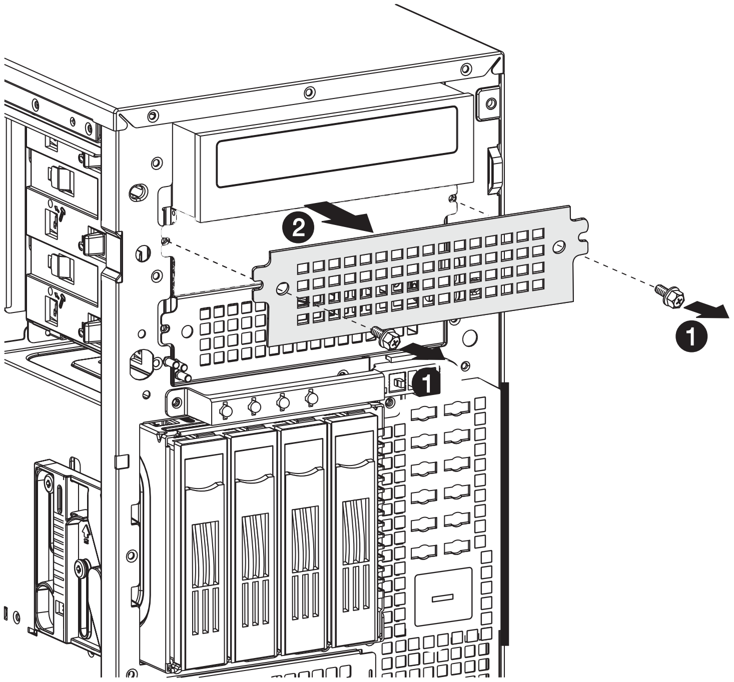
6 Observe the post-installation instructions described on page 36.

Installing 5.25-inch drives

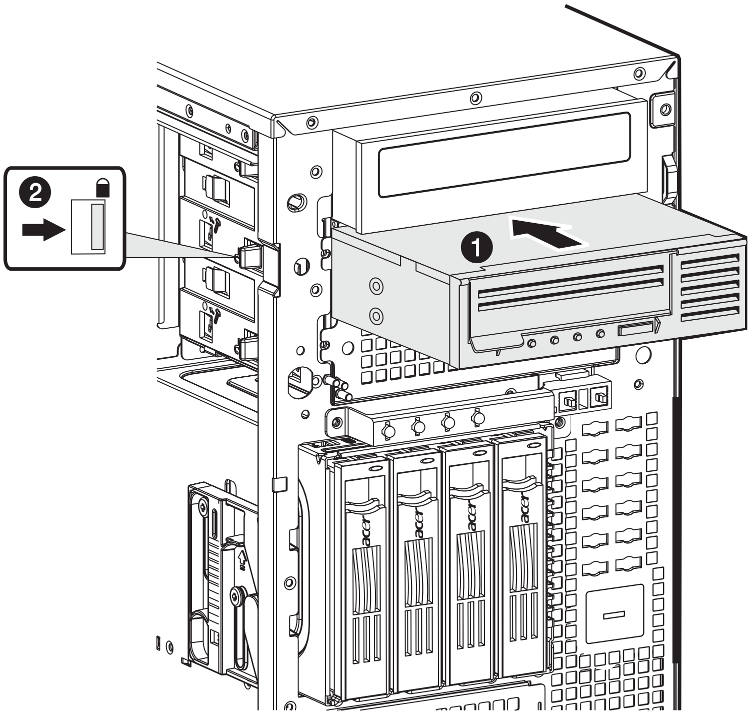
The two empty 5.25-inch drive bays allow you to install additional drives such as another backup hard drive, CD-ROM drive, or a tape drive. These options provide the system with additional storage capacity.

To install a 5.25-inch tape drive:

1. Observe the ESD precautions and pre-installation instructions described on page 35.
2. Remove the two screws that secure the cover to the empty 5.25-inch drive bay **(1)**, then detach the cover **(2)**.



3 Install a tape drive into the drive bay **(1)**, then push the lever in the direction of the lock icon 🔒 **(2)**.



4 Connect the power and IDE cables to the tape drive.

5 Observe the post-installation instructions described on page 36.

Upgrading the processor

This section includes instructions for installing and removing a processor and heat sink fan (HSF) assembly.

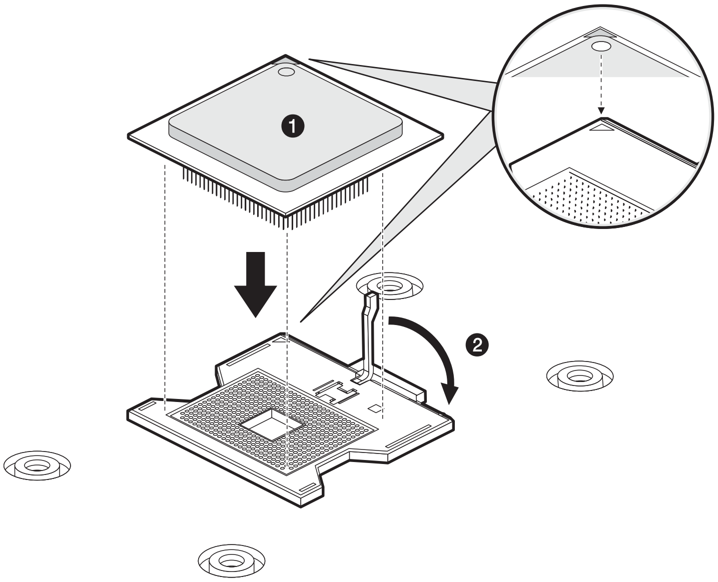
Installing the CPU

The mainboard has two 604-pin processor socket that support Intel Xeon processors. The system ships out with only a single Intel Xeon processor installed leaving one CPU socket empty. You have the option to purchase an extra CPU for the system.

Important: When installing an additional CPU, make sure the CPU has the same stepping and running values at the same frequency specifications as the default CPU.

1. Observe the ESD precautions and pre-installation instructions described on page 35.
2. Locate an empty CPU socket on the mainboard.
3. Pull the CPU socket retainer lever to a fully open, upright position.
4. Remove the CPU from its protective packaging.
5. Align the CPU with the socket, making sure that pin 1 (indicated by the notched corner) of the CPU connects to hole 1 of the socket (on the bottom right corner), then insert the CPU into the socket **(1)**.

6 Press the retainer lever down to lock the CPU in place **(2)**.



Installing the HSF assembly

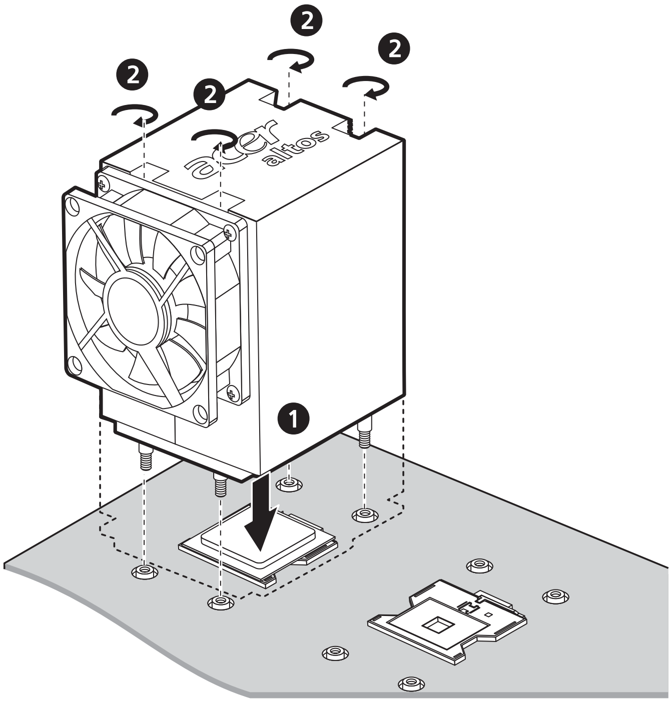
1 Apply thermal grease.

Apply approximately 0.1ml of the thermal grease compound on it's top side.

2 Install the heat sink fan assembly

(1) Align the heat sink fan assembly to the CPU **(1)**.

(2) Using a screwdriver, tighten the heatsink's four screws to secure it to the mainboard **(2)**.



(3) Connect the CPU fan cable to its mainboard connector. Refer to "Mainboard layout" on page 14 for the location of the CPU fan connector.

3 Observe the post-installation instructions described on page 36.

Removing the HSF assembly

Important: Before removing a CPU from the mainboard, make sure to create a backup file of all important data.

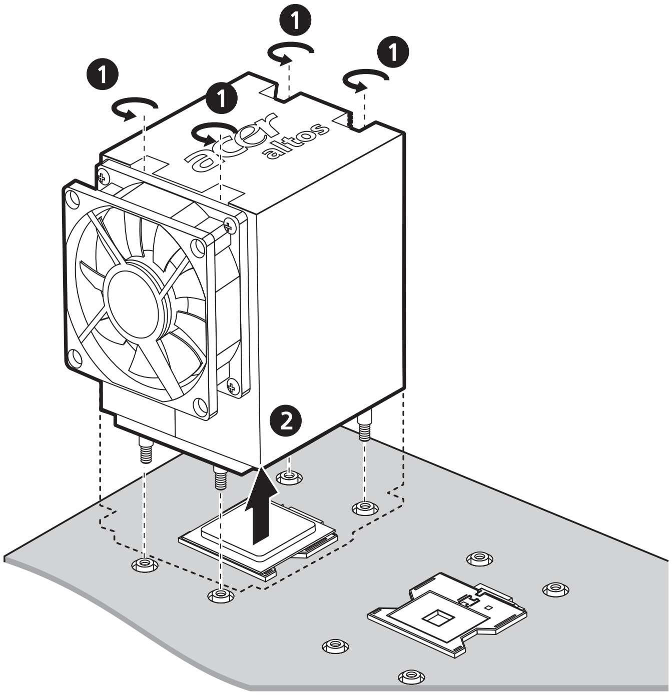
1 Observe the ESD precautions and pre-installation instructions described on page 35.

Warning! The heat sink becomes very hot when the system is on. NEVER touch the heat sink with any metal or with your hands.

2 Disconnect the CPU fan cable from its mainboard connector.

3 Loosen the four screws that hold the HSF assembly to the mainboard **(1)**.

4 Pull the HSF assembly away from the CPU **(2)**.



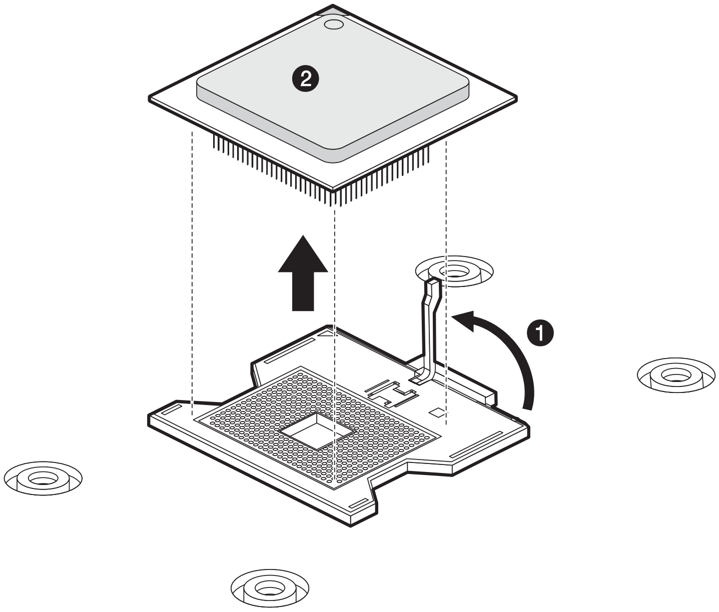
5 Place the HSF assembly upside down on a flat surface.

Note: Wipe off the thermal grease from both the HSF assembly and CPU using an alcohol pad.

Removing the CPU

1 Pull the CPU socket retainer lever to a fully open, upright position **(1)**.

2 Pull out the CPU from the socket **(2)**.



Upgrading the system memory

This section includes instructions for removing and installing a memory module.

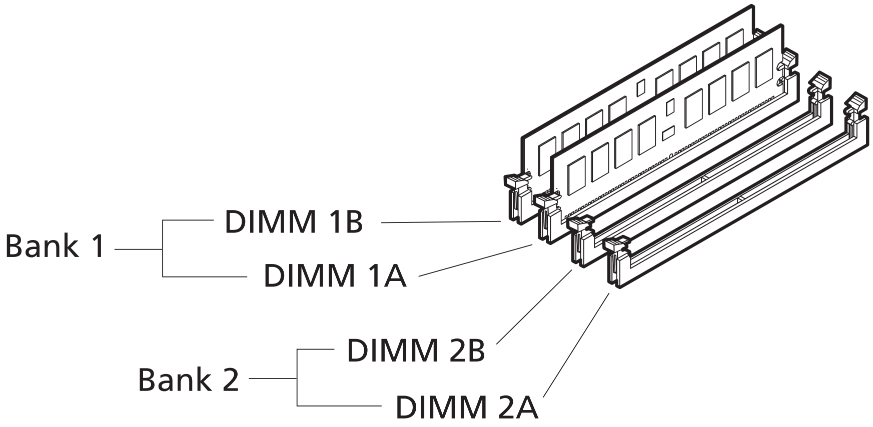
Altos G530 has four DDR2-400 DIMM slots. Each slot supports 512 MB, 1GB or 2GB memory modules. The maximum memory capacity is 8GB.

Memory module installation guidelines

- The minimum memory configuration is one DIMM, installed in the DIMM 1B socket (the socket farthest from the CPU sockets). However, for optimum performance and dual-channel interleave operation, a minimum of two DIMMs should be installed. DIMMs on channel A (DIMM 1A and 2A) are paired with DIMMs on channel B (DIMM 1B and 2B) to enable 2-way interleaving.

Note: Dual-channel memory requires symmetrical memory modules using the same density (e.g. 512 MB), bus width (e.g. x8, x16) and granule technology (e.g. 512M-bit).

- Populate both DIMMs in bank 1 (DIMM 1B and 1A) first, before populating DIMMs in bank 2 (DIMM 2B and 2A). Bank 2 must be populated in pairs.



Note: Refer to the “Mainboard layout” on page 14 for the location of the DIMM slots.

- Both DIMMs in a bank must be identical (same manufacturer, CAS latency, number of rows, columns and devices, timing parameters, etc.). Although DIMMs within a bank must be identical, the BIOS supports various DIMM sizes and configurations allowing the banks of memory to be different.

Warning! For the system to function, DIMM modules must be installed or removed in matched pairs, following the socket sequence : DIMM 1B and 1A first, then DIMM 2B and 2A. DIMM modules of the same type, banking, stacking technology, and manufacturer must be installed in the Altos G530 system.

Note: Refer to "Mainboard layout" on page 14 for the location of the DIMM sockets for each processor.

The table below lists the supported memory installation based on the memory interleave configuration:

Bank 1		Bank 2		Memory Interleave
DIMM 1B	DIMM 1A	DIMM 2B	DIMM 2A	
512 MB				1-way
1 GB				1-way
2 GB				1-way
512 MB	512 MB			2-way
1 GB	1 GB			2-way
2 GB	2 GB			2-way
512 MB	512 MB	512 MB	512 MB	2-way
1 GB	1 GB	1 GB	1 GB	2-way
2 GB	2 GB	2 GB	2 GB	2-way

Altos G530 supports memory sparing function. To provide a more fault tolerant system, Altos G530 includes special hardware to support fail-over to a spare DIMM device in the event that a primary DIMM in use exceeds a specified threshold of runtime errors. One of the DIMMs installed per channel will not be used, but kept in reserve. In the event of significant failures in a particular DIMM, it and its corresponding partner in the other channel (if applicable), will, over time, have its data copied over to the spare DIMM held in reserve. When all the data has been copied, the reserved DIMM will be put into service and the failed DIMM will be removed from service. Only one sparing cycle is supported. If the memory sparing feature is not enabled, then all DIMMs will be visible in normal address space.

Refer to “Memory Configuration” on page 101 for more information about configuring the memory spare parameter in the BIOS Setup Utility.

Removing a DIMM

Before you can install a new DIMM in a socket, remove first any previously installed DIMM from that socket.

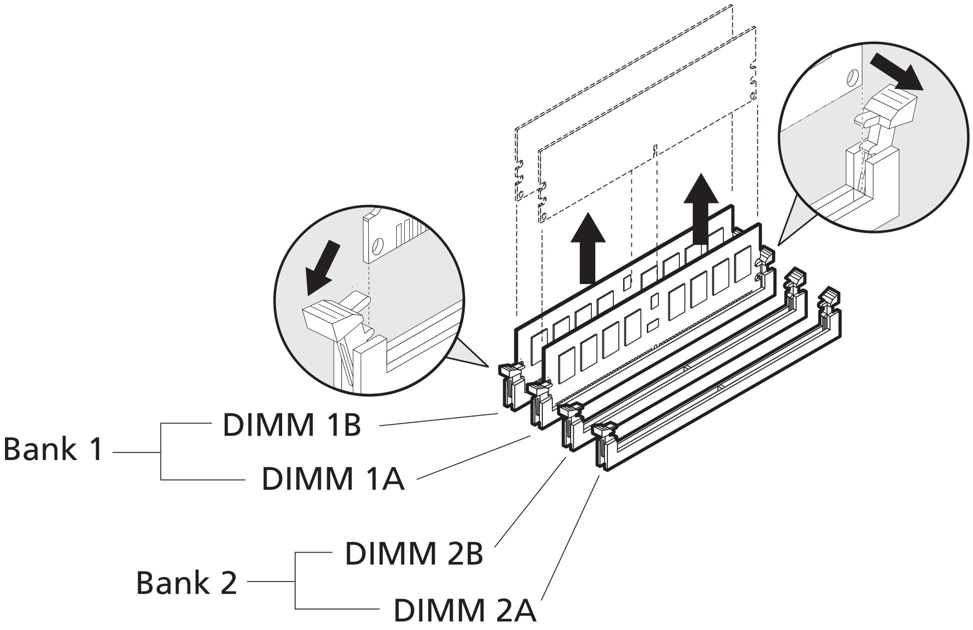
Important: Before removing any DIMM from the mainboard, make sure to create a backup file of all important data.

1 Observe the ESD precautions and pre-installation instructions described on page 35.

2 Locate the DIMM sockets on the mainboard.

3 Press the holding clips on both sides of the socket outward to release the DIMM.

4 Gently pull the DIMM upward to remove it from the socket .



Installing a DIMM

1 Observe the ESD precautions and pre-installation instructions described on page 35.

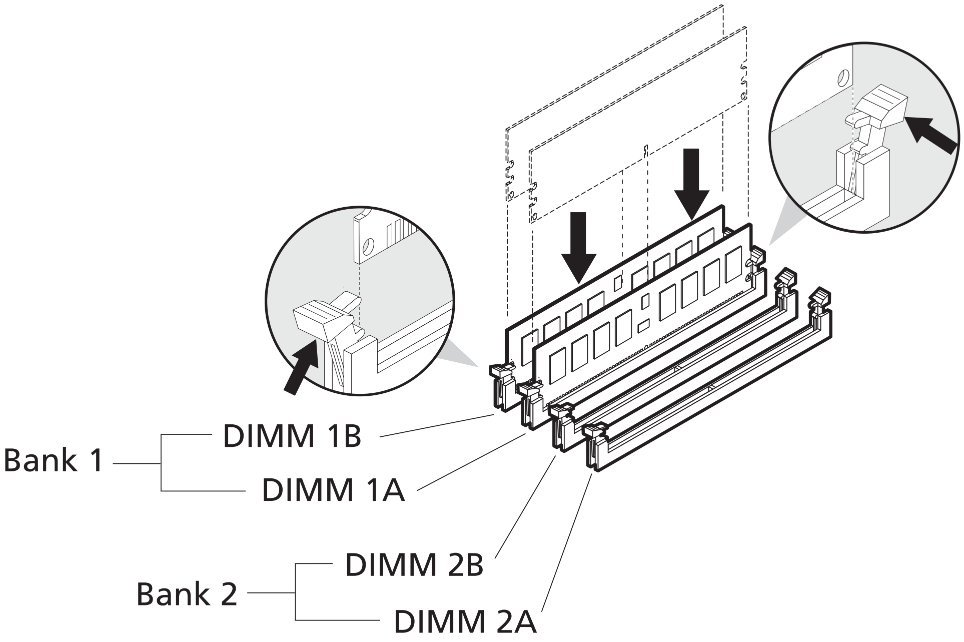
2 Locate the DIMM sockets on the mainboard.

Note: DIMM modules must be installed in matched pairs, following the socket sequence: DIMM 1B and 1A first, then DIMM 2B and 2A.

3 Open the clips on the socket.

4 Align then insert the DIMM into the socket.

5 Press the holding clips inward to lock the DIMM in place.



Note: The DIMM socket is slotted to ensure proper installation. If you insert a DIMM but it does not fit easily into the socket, you may have inserted it incorrectly. Reverse the orientation of the DIMM and insert it again.

6 Observe the post-installation instructions described on page 36.

To reconfigure the system memory:

The system automatically detects the amount of memory installed. Run the BIOS setup to view the new value for total system memory and make a note of it.

Installing an expansion card

This section explains how to install an expansion card. The onboard expansion slots supports PCI (Peripheral Component Interconnect), PCI-X, and PCI Express cards. PCI Express slot is a new type of interface and differs in length than the conventional PCI/PCI-X slots. You should always install the correct type of plug-in expansion cards in the x4 PCI Express slot. Contact your dealer for qualified PCI Express card vendors.

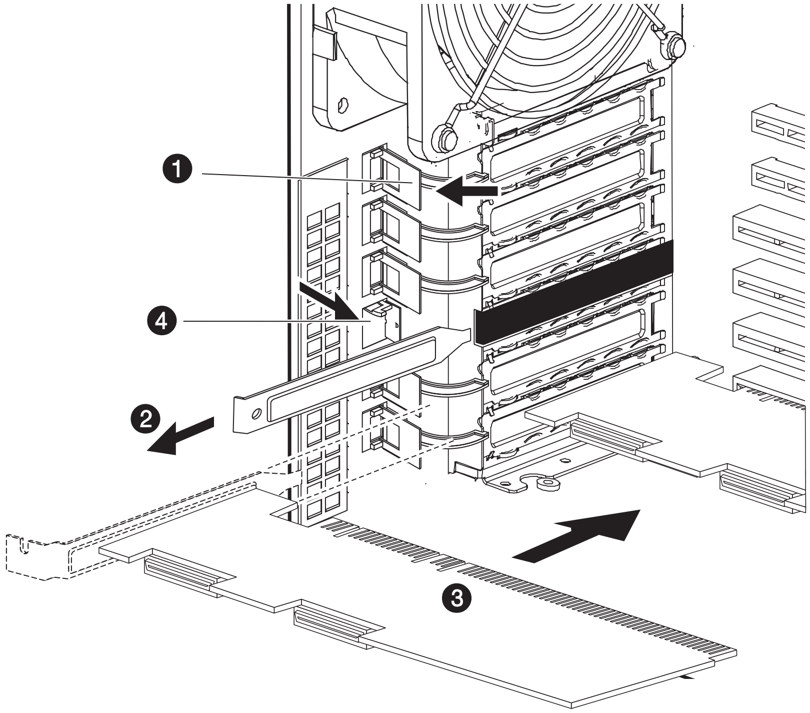
To install an expansion card:

1. Observe the ESD precautions and pre-installation instructions described on page 35.
2. Locate an empty expansion slot on the mainboard.

   Note: The SCSI RAID card shown below is for your reference only. To purchase a SCSI RAID card, contact your local Acer representative.

3. Press the slot release latch outward **(1)**.
4. Pull out the slot cover **(2)**. Store it for reassembly later.
5. Remove the expansion card from its protective packaging.
6. Align the card in the empty slot.
7. Insert the card into the selected slot **(3)**. Make sure that the card is properly seated.

8 Press the PCI slot release latch on the rear panel of the server **(4)**.



9 Observe the post-installation instructions described on page 36.

Note: When you turn on the system, the BIOS setup automatically detects and assigns resources to the new device (applicable only to plug-and-play expansion cards).

Upgrading the power supply

The Altos G530 system may ship out with a redundant or non-redundant power supply module.

Installing a redundant power supply module

The Altos G530 power subsystem consists of two redundant power supply module bays that accept 610-watt hot-swap redundant power supply modules. The system ships out with only a single power supply module leaving one power supply module bay empty. You have the option to purchase an extra power supply module to provide the system with a redundant power source. A redundant power configuration enables a fully-configured system to continue running even if one power supply module fails.

WARNING! To reduce the risk of personal injury or damage to the equipment, the installation of power supply modules should be referred to individuals who are qualified to service server systems and are trained to deal with equipment capable of generating hazardous energy levels.

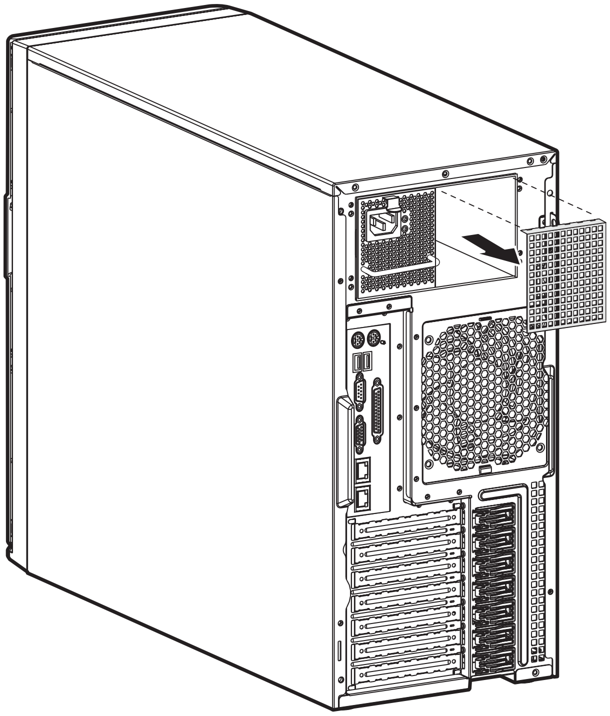
WARNING! To reduce the risk of personal injury from hot surfaces, observe the thermal labels on each power supply module. You can also consider wearing protective gloves.

WARNING! To reduce the risk of personal injury from electric shock hazards, do not open the power supply modules. There are no serviceable parts inside the module.

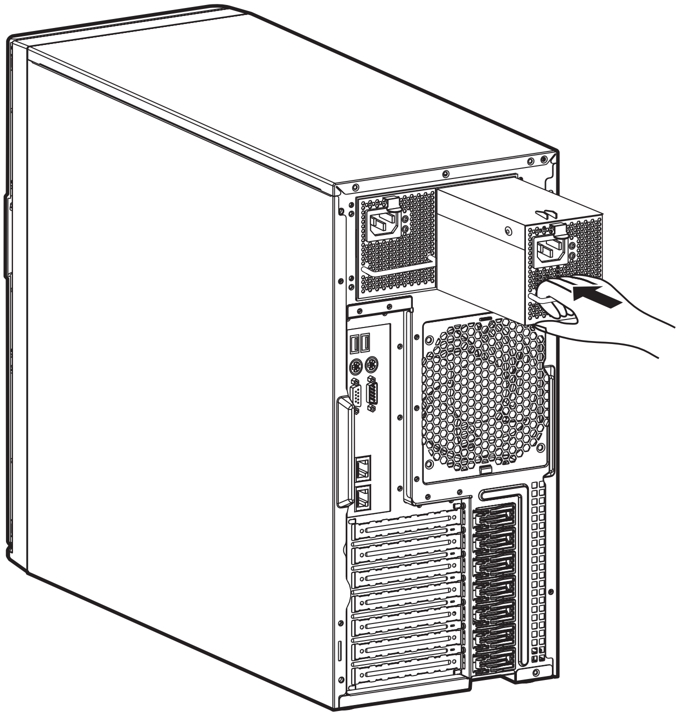
Caution! Electrostatic discharge can damage electronic components. Make sure that you are properly grounded before handling a power supply module.

1 Remove the cover of the empty power supply module bay.

Note: If the system ships out with a screw on the cover, remove the screw first then detach the cover.



2 Hold the handle on front of the power supply module while pressing your thumb on the release latch. Slide the power supply module into the empty bay until you feel resistance.



3 Press the module handle to secure the power supply module to its bay.

4 Verify that the power indicators on the main power supply and on the newly installed redundant power supply are illuminated green.

Installing a non-redundant power supply module

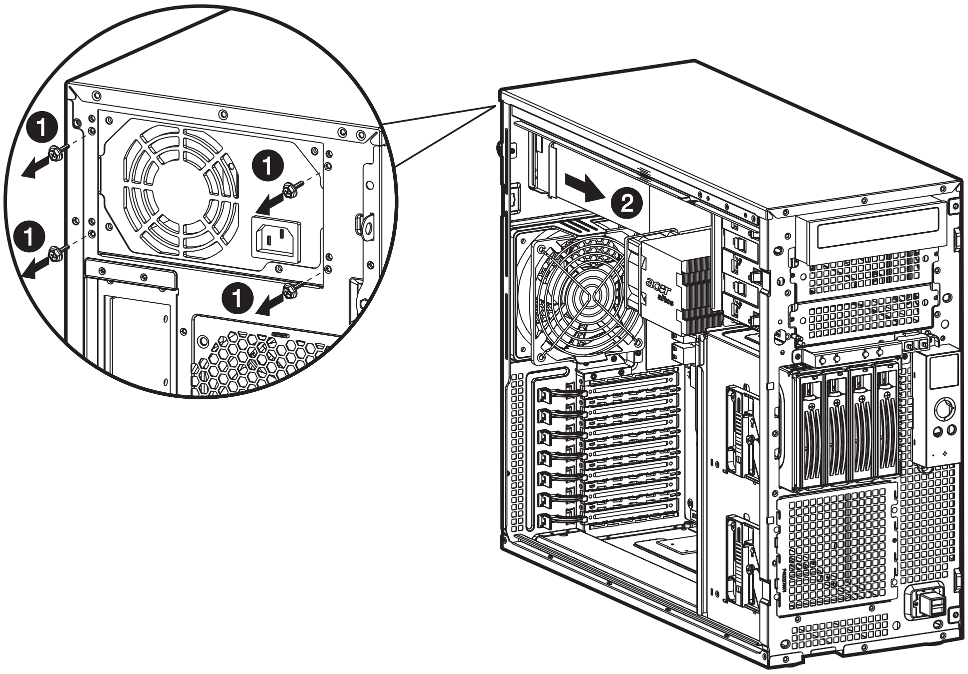
The Altos G530 power subsystem accepts a 600-watt non-redundant power supply module. If you are replacing a previously installed power supply module, turn it off and unplug it.

1 Observe the ESD precautions and pre-installation instructions described on page 35.

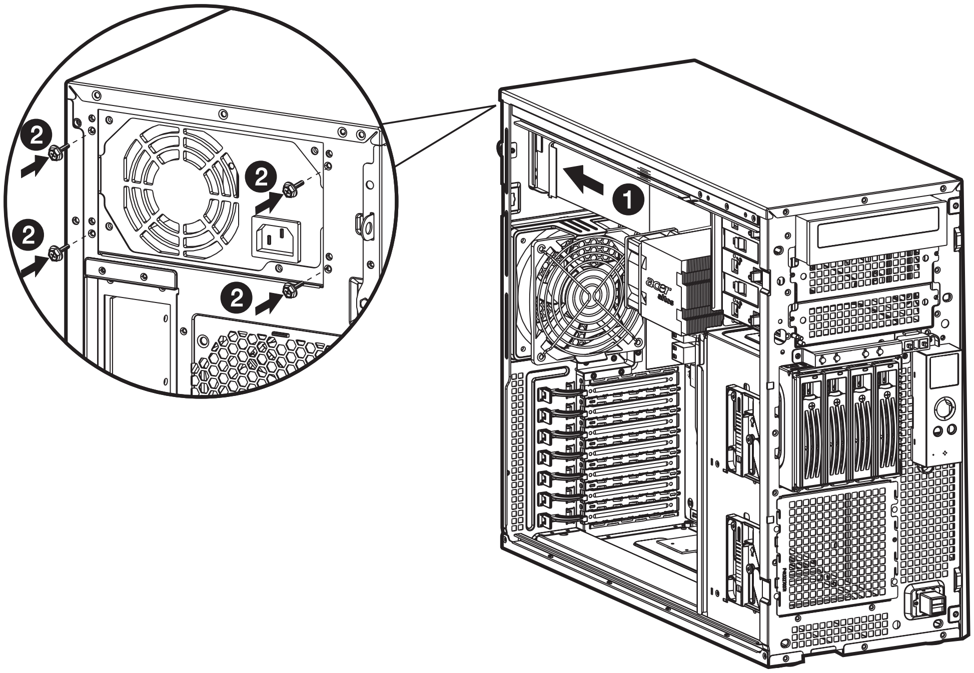
2 Detach the power and power supply cable from their connectors.

3 Remove the four screws on the cover of the power supply module bay, then detach the cover.

4 Slide the power supply module toward the front of the system, then lift the power supply module out of the chassis.



5 Slide the new power supply module into the bay, then secure it to the chassis with the four screws removed earlier.



6 Attach the power cable to the power cable socket.

7 Attach the power supply cable to the mainboard connector.

Note: If a four-bay hot-plug HDD cage is already installed in your chassis, attach the power cable to the hard drive's power cable connector.

8 Observe the post-installation instructions described on page 36.

4 BIOS setup

This chapter gives information about the system BIOS and discusses how to configure the system by changing the settings of the BIOS parameters.

BIOS setup

BIOS setup is a hardware configuration program built into the system's Basic Input/Output System (BIOS). Since most systems are already properly configured and optimized, there is no need to run this utility. You will need to run this utility under the following conditions:

- When changing the system configuration
- When a configuration error is detected by the system and you are prompted ("Run Setup" message) to make changes to the BIOS setup

Note: If you repeatedly receive Run Setup messages, the battery may be bad. In this case, the system cannot retain configuration values in CMOS. Ask a qualified technician for assistance.

- When redefining the communication ports to prevent any conflicts
- When making changes to the Power Management configuration
- When changing the password or making other changes to the security setup

BIOS setup loads the configuration values in a battery-backed nonvolatile memory called CMOS RAM. This memory area is not part of the system RAM which allows configuration data to be retained when power is turned off.

Before you run BIOS setup, make sure that you have saved all open files. The system reboots immediately after you close the setup.

Entering BIOS setup

Power on the server to start the system POST process. During bootup, press **F2** to enter the BIOS setup screen.

Note: You must press **F2** while the system is booting. This key does not work during any other time.

There are several tabs on the setup screen corresponding to the six major BIOS menus:

- Main
- Advanced
- Boot
- Security
- Server
- Exit

The parameters on the screens shown in this User's Guide display default system values. These values may not be the same as those in the system.

Note the following reminders when moving around the setup screen:

- Use the **Left** and **Right** arrow keys to move to the next page or to return to the previous screen.
- Use the **Up** and **Down** arrow keys to select an item.
- Use the **+** and **-** keys to select an option.

Note: You can configure a parameter that is enclosed in square brackets. Grayed-out items have fixed settings and are not user-configurable.

- Use the **Tab** key to select a field.
- Use the **Enter** key to display a submenu screen.

Note: When a parameter is preceeded by a **>**, it means that a submenu screen is available.

- Press **F1** for General Help on using the BIOS setup.
- Press **F10** to save changes and close the BIOS setup.
- Press **Esc** to close the BIOS setup.

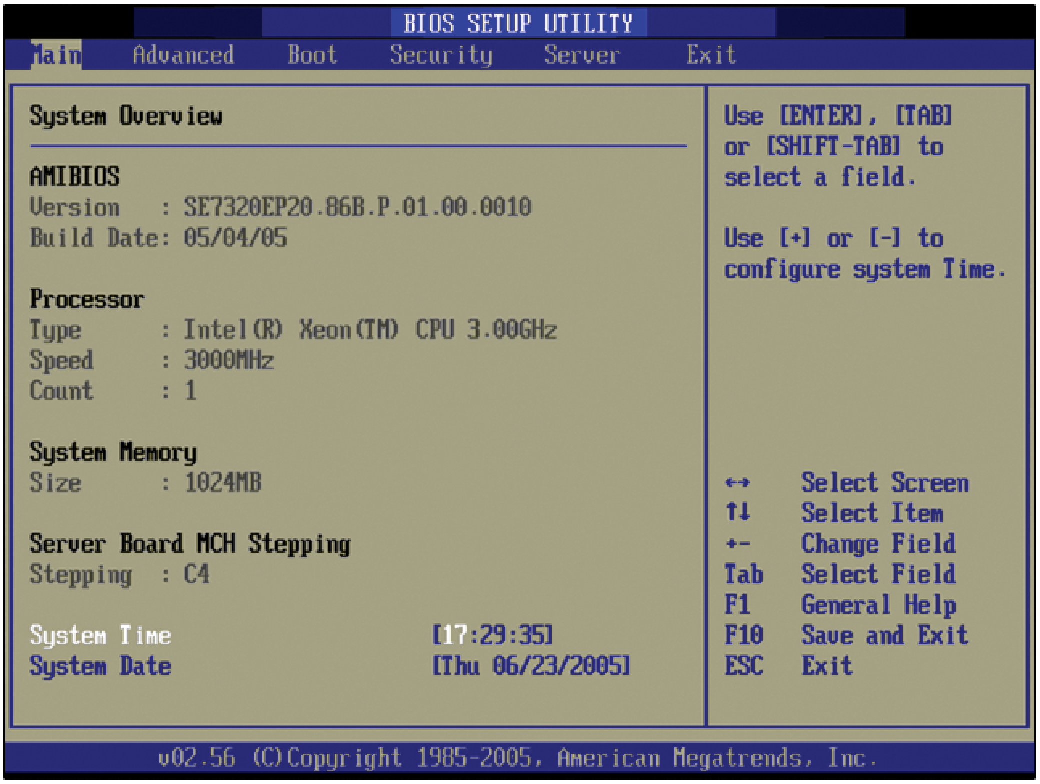
In the descriptive table following each of the screen illustrations, settings in **boldface** are the default and suggested parameter settings.

Note: The BIOS screens shown in the following pages may vary depending on the system configuration.

Main

The Main menu displays basic and important information about the system. These information are necessary for troubleshooting and may be required when asking for technical support. These entries are for your reference only and are not user-configurable.

The last two parameters on the screen lets you define the sytem's time and date settings. The real-time clock keeps the system date and time. After setting the date and time, you do not need to enter them every time you turn on the system. As long as the internal battery remains good and connected, the clock continues to keep the date and time accurately even when the power is off.


BIOS SETUP UTILITY
Main
Advanced
Boot
Security
Server
Exit
↔ Select Screen
↑↓ Select Item
+- Change Field
Tab Select Field
F1 General Help
F10 Save and Exit
ESC Exit

```
System Overview

AMIBIOS
Version    : SE7320EP20.86B.P.01.00.0010
Build Date: 05/04/05

Processor
Type       : Intel(R) Xeon(TM) CPU 3.00GHz
Speed      : 3000MHz
Count      : 1

System Memory
Size       : 1024MB

Server Board MCH Stepping
Stepping   : C4

System Time                     [17:29:35]
System Date                     [Thu 06/23/2005]
```

Use [ENTER], [TAB] or [SHIFT-TAB] to select a field.

Use [+] or [-] to configure system Time.

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Parameter	Description
AMIBIOS Version	Version of the BIOS setup utility.
Build Date	Date when the BIOS setup was created.
Processor Type	Type of processor currently installed in the server.

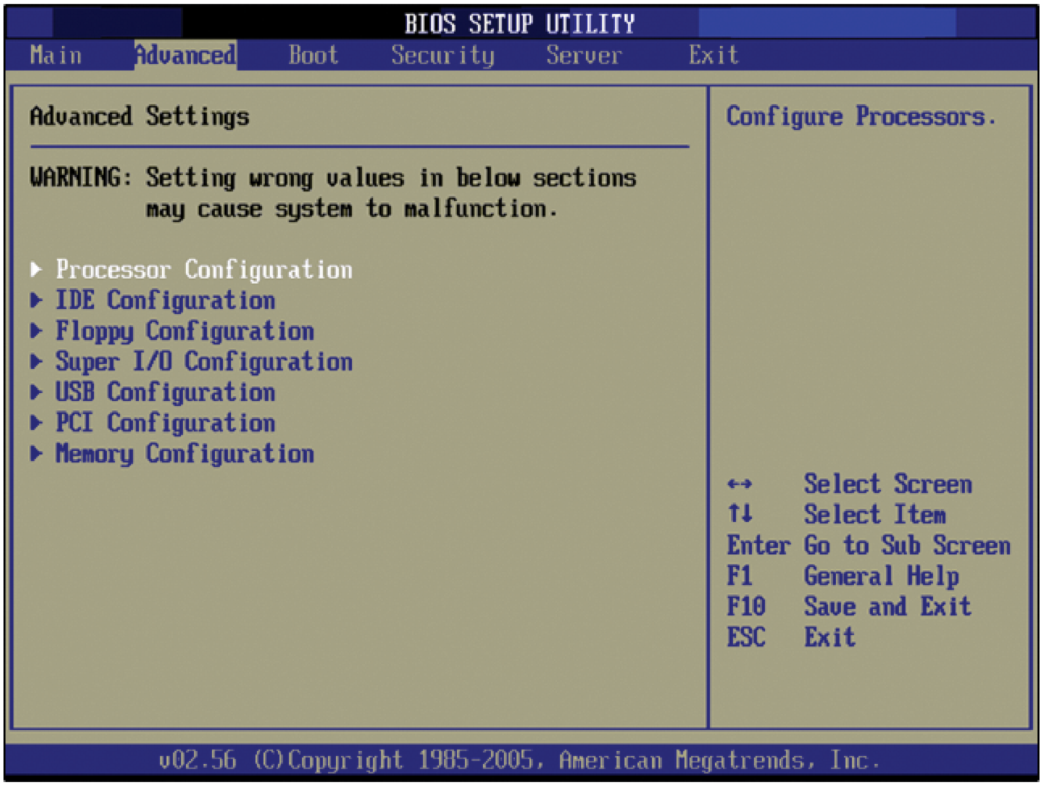
Parameter	Description
Processor Speed	The processor speed is the speed at which a microprocessor executes instructions. Clock speeds are expressed in megahertz (MHz), with 1 MHz being equal to 1 million cycles per second. The faster the clock, the more instructions the CPU can execute per second.
Processor Count	Indicates the number of processors currently installed in the server.
System Memory Size	Indicates the total amount of onboard memory. The memory size is automatically detected by BIOS during the POST. If you install additional memory, the system automatically adjusts this parameter to display the new memory size.
Server Board MCH Stepping	Indicates the stepping revision of the memory controller
System Time	Sets the time following the hour-minute-second format. Valid values for hour, minute, and second are: Hour: 00 to 23 Minute: 00 to 59 Second: 00 to 59
System Date	Sets the date following the weekday-month-day-year format. Valid values for weekday, month, day, and year are: Weekday: Sun, Mon, Tue, Wed, Thu, Fri, Sat Month: Jan, Feb, Mar, Apr, May, Jun, Jul, Aug, Sep, Oct, Nov, Dec Day: 1 to 31 Year: 1980 to 2079

Advanced

The Advanced menu contains parameter values that define how the system behaves on startup.

Warning! Be cautious in setting parameter values in the Advanced menu as any incorrect value may cause the system to malfunction.

Press **Enter** to enter the submenu screen of the parameters shown in the screen below.



Advanced Settings

WARNING: Setting wrong values in below sections
may cause system to malfunction.

- ▶ Processor Configuration
- ▶ IDE Configuration
- ▶ Floppy Configuration
- ▶ Super I/O Configuration
- ▶ USB Configuration
- ▶ PCI Configuration
- ▶ Memory Configuration

Configure Processors.

↔	Select Screen
↑↓	Select Item
Enter	Go to Sub Screen
F1	General Help
F10	Save and Exit
ESC	Exit

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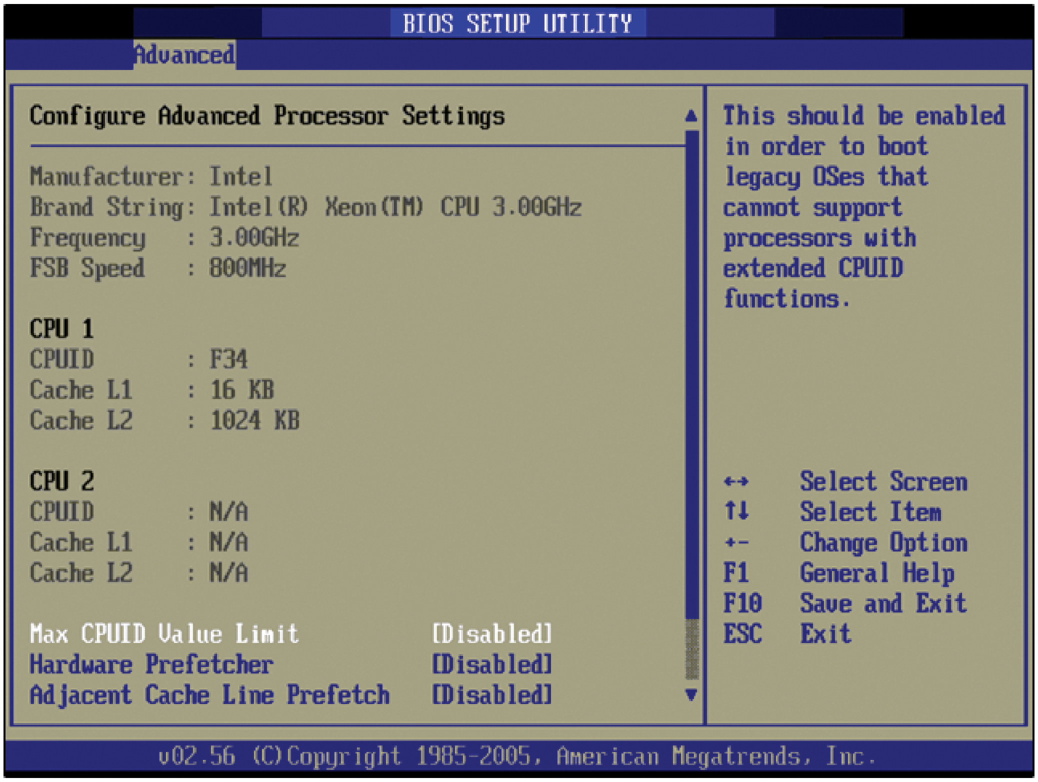
Processor Configuration

The Processor Configuration submenu displays CPU settings such as type, actual speed, cache size and other CPU related settings.



BIOS SETUP UTILITY
Advanced

```
Configure Advanced Processor Settings

Manufacturer: Intel
Brand String: Intel(R) Xeon(TM) CPU 3.00GHz
Frequency   : 3.00GHz
FSB Speed   : 800MHz

CPU 1
CPUID       : F34
Cache L1    : 16 KB
Cache L2    : 1024 KB

CPU 2
CPUID       : N/A
Cache L1    : N/A
Cache L2    : N/A

Max CPUID Value Limit        [Disabled]
Hardware Prefetcher          [Disabled]
Adjacent Cache Line Prefetch [Disabled]
```

This should be enabled in order to boot legacy OSes that cannot support processors with extended CPUID functions.

↔ Select Screen
↑↓ Select Item
+- Change Option
F1 General Help
F10 Save and Exit
ESC Exit

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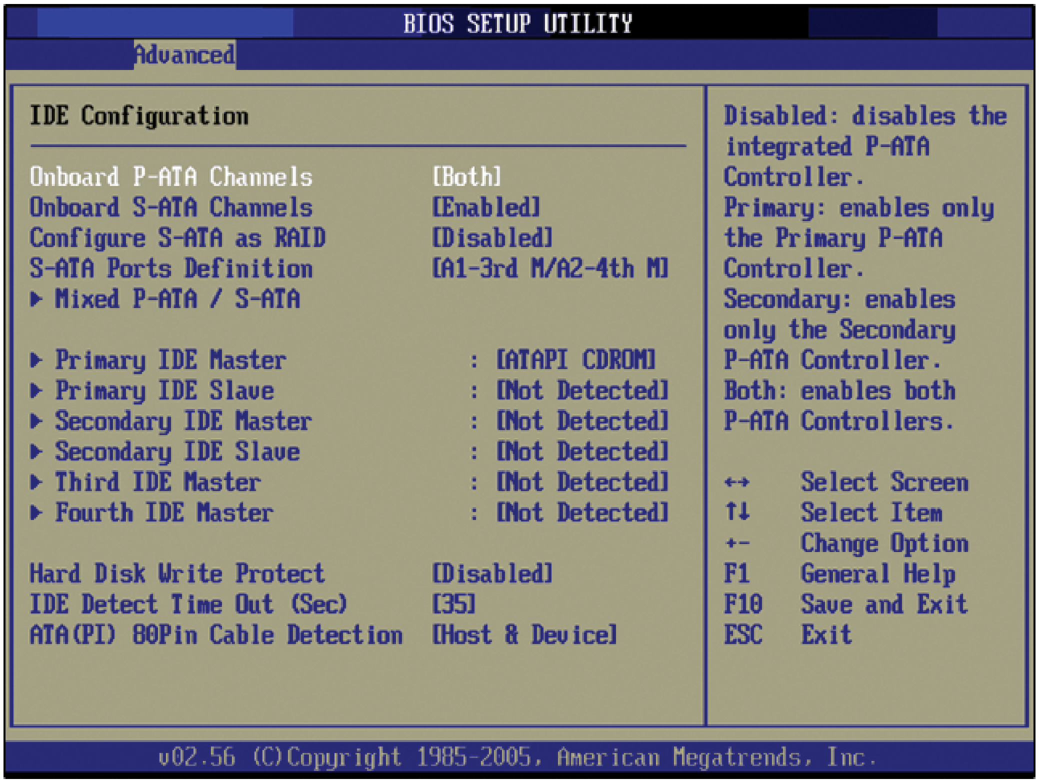
Parameter	Description	Option
Manufacturer	Processor manufacturer	
Brand String	Processor brand identification number	
Frequency	Indicates the calculated processor speed.	
FSB Speed	Indicates the processor front side bus speed.	
CPU 1 CPUID	ID number of CPU 1.	
CPU 1 Cache L1	Indicates CPU 1 cache L1 size.	
CPU 1 Cache L2	Indicates CPU1 cache L2 size.	

Parameter	Description	Option
CPU 2 CPUID	ID number of the CPU 2.	
CPU 2 Cache L1	Indicates CPU 2 cache L1 size.	
CPU 2 Cache L2	Indicates CPU 2 cache L2 size.	
Max CPUID Value Limit	Enable to boot legacy operating systems.	**Disabled** Ensabled
Execute Disable Bit	When Enabled, the processor disables code execution when a worm attempts to insert a code in the buffer, preventing damage and worm propagation. When Disabled, the processor forces the Execute Disable Bit feature flag to always return to 0. **Note:** This feature is hidden if the procesor does not support this function.	**Disabled** Ensabled
C1E Support	When Enabled, the CPU power consumption will be lower when the system is idle. **Note:** This feature is hidden if the procesor does not support this function.	**Disabled** Ensabled
Hardware Prefetcher	Enables or disables the processor Hardware Prefetch feature.	**Disabled** Ensabled
Adjacent Cache Line Prefetch	Enables or disables the processor Adjacent Cache Line Prefetch feature.	**Disabled** Ensabled
Hyper-Threading Technology	Enables or disables the Hyper-Threading function of the processor. The Hyper-Threading Technology controls Hyper-Threading state. Primarily used to support older OS that do not support Hyper Threading.	**Enabled** Disabled

Parameter	Description	Option
HT Technology in MPS	When Enabled, adds secondary processor threads to the MPS (multiprocessor) table for the pre-ACPI (pre- Advanced Configuration and Power Interface) operating systems.	**Disabled** Enabled
Intel SpeedStep® Technology	When set to Auto, this feature allows the operating system to reduce power consumption. When set to Disabled, the system operates at maximum CPU speed. **Note:** This parameter will be hidden when the processor does not support this function.	**Disabled** Auto

IDE Configuration

The IDE Configuration submenu lets you define the parameter settings related to the hard disk/s.



```
                        BIOS SETUP UTILITY
     Advanced

 IDE Configuration                                Disabled: disables the
                                                  integrated P-ATA
 Onboard P-ATA Channels       [Both]              Controller.
 Onboard S-ATA Channels       [Enabled]           Primary: enables only
 Configure S-ATA as RAID      [Disabled]          the Primary P-ATA
 S-ATA Ports Definition       [A1-3rd M/A2-4th M] Controller.
 ▶ Mixed P-ATA / S-ATA                            Secondary: enables
                                                  only the Secondary
 ▶ Primary IDE Master           : [ATAPI CDROM]   P-ATA Controller.
 ▶ Primary IDE Slave            : [Not Detected]  Both: enables both
 ▶ Secondary IDE Master         : [Not Detected]  P-ATA Controllers.
 ▶ Secondary IDE Slave          : [Not Detected]
 ▶ Third IDE Master             : [Not Detected]  ↔     Select Screen
 ▶ Fourth IDE Master            : [Not Detected]  ↑↓    Select Item
                                                  +-    Change Option
 Hard Disk Write Protect      [Disabled]          F1    General Help
 IDE Detect Time Out (Sec)    [35]                F10   Save and Exit
 ATA(PI) 80Pin Cable Detection [Host & Device]    ESC   Exit

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```

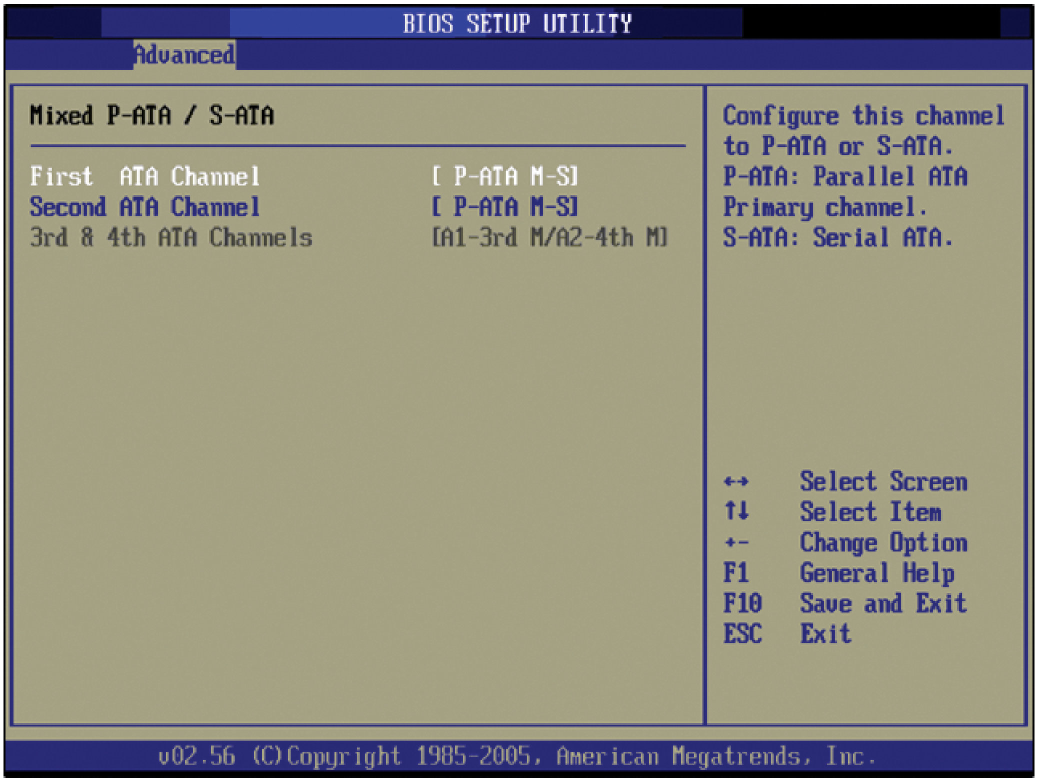
Parameter	Description	Option
Onboard P-ATA Channels	When set to Both, the system can support both Primary and Secondary PATA Controllers. When set to Disabled, it disables the integrated PATA Controller. When set to Primary, it enables support for Primary PATA Controller. When set to Secondary, it enables support for Secondary PATA Controller.	**Both** Disabled Primary Secondary
Onboard S-ATA Channels	Enables or disables the integrated SATA Controller.	**Enabled** Disabled

Parameter	Description	Option
Configure S-ATA as RAID	When set to Enabled, the SATA channels are reserved to be used as RAID.	**Disabled** Enabled
S-ATA Ports Definition	Defines priority between SATA channels.	**A 1-3rd M/A 2-4th M** A 1-4th M/ A 2-3rd M
Mixed P-ATA/ S-ATA	Lets you remove a PATA and replace it by SATA in a given channel. Only one channel can be designated as SATA. Press **Enter** to access the Mixed PATA/ SATA submenu.	
Primary IDE Master	Specifies the current configuration of the IDE device connected to the master port of the primary IDE channel. Press **Enter** to access the Primary Master submenu.	
Primary IDE Slave	Specifies the current configuration of the the IDE device connected to the slave port of the primary IDE channel. Press **Enter** to access the Primary Slave submenu.	
Secondary IDE Master	Specifies the current configuration of the IDE device connected to the master port of the secondary IDE channel. Press **Enter** to access the Secondary Master submenu.	
Secondary IDE Slave	Specifies the current configuration of the IDE device connected to the slave port of the secondary IDE channel. Press **Enter** to access the Secondary Slave submenu.	
Third IDE Master	Specifies the current configuration of the IDE device connected to the master port of the third IDE channel. Press **Enter** to access the Third Master submenu.	

Parameter	Description	Option
Fourth IDE Master	Specifies the current configuration of the IDE device connected to the master port of the fourth IDE channel. Press **Enter** to access the Fourth Master submenu.	
Hard Disk Write Protect	Enables or disables write protection to system hard drives.	**Disabled** Enabled
IDE Detect Time Out (Sec)	Select the time out value for detecting ATA/ATAPI devices. Used with older IDE devices with longer spin up times.	0 5 15 20 25 30 35
ATA(PI) 80-pin Cable Detection	Select the mechanism for detecting 80-pin ATA(PI) cable.	**Host & Device** Host Device

Mixed P-ATA / S-ATA

The Mixed P-ATA/S-ATA submenu lets you specify the channel for the Parallel ATA Primary channel and Serial ATA device.


BIOS SETUP UTILITY
Advanced
↔ Select Screen
↑↓ Select Item
+- Change Option
F1 General Help
F10 Save and Exit
ESC Exit

```
Mixed P-ATA / S-ATA

First  ATA Channel            [ P-ATA M-S]
Second ATA Channel            [ P-ATA M-S]
3rd & 4th ATA Channels        [A1-3rd M/A2-4th M]
```

Configure this channel to P-ATA or S-ATA.
P-ATA: Parallel ATA Primary channel.
S-ATA: Serial ATA.

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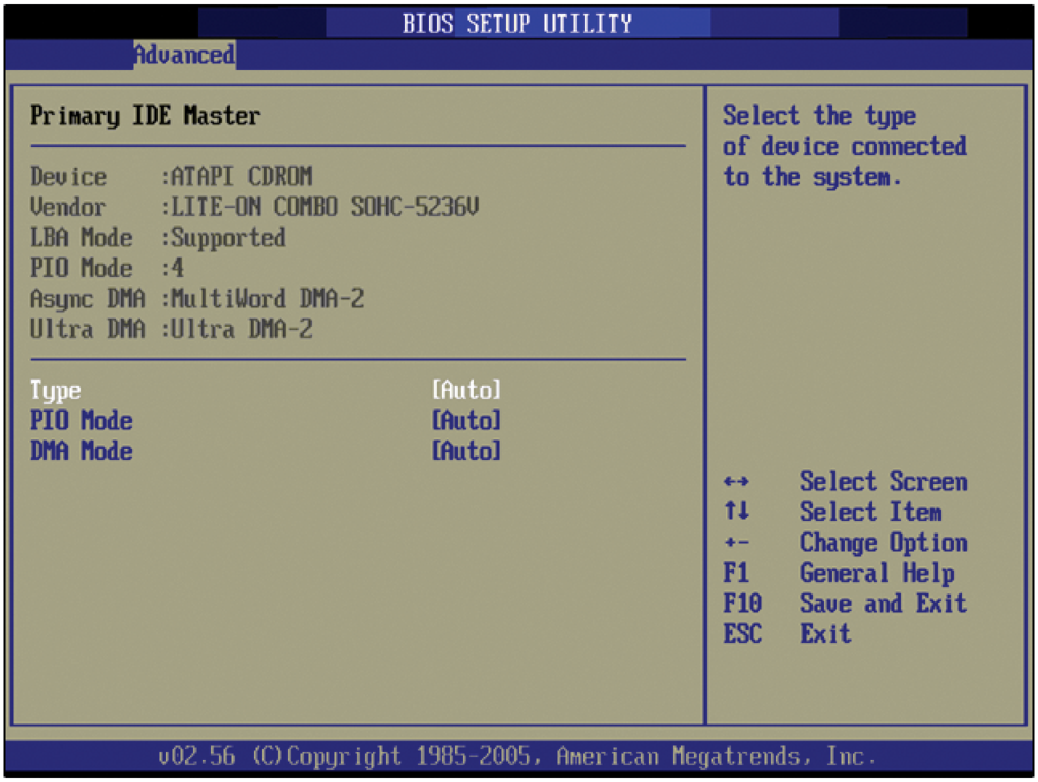
Parameter	Description	Option
First/Second ATA Channel	Select channel mode.	**P-ATA M-S** SATA M-S
3rd/4th ATA Channel	Select channel mode.	**A1-3rd M/A2-4th M** A1-4th M/A2-3rd M None

Primary/Secondary/Third/Fourth IDE Master/Slave

These items let you select the IDE hard disk parameters that the system supports.



```
                         BIOS SETUP UTILITY
         Advanced
 Primary IDE Master                                  Select the type
                                                     of device connected
 Device     :ATAPI CDROM                             to the system.
 Vendor     :LITE-ON COMBO SOHC-5236V
 LBA Mode   :Supported
 PIO Mode   :4
 Async DMA  :MultiWord DMA-2
 Ultra DMA  :Ultra DMA-2

 Type                           [Auto]
 PIO Mode                       [Auto]
 DMA Mode                       [Auto]
                                                     ←→    Select Screen
                                                     ↑↓    Select Item
                                                     +-    Change Option
                                                     F1    General Help
                                                     F10   Save and Exit
                                                     ESC   Exit

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```

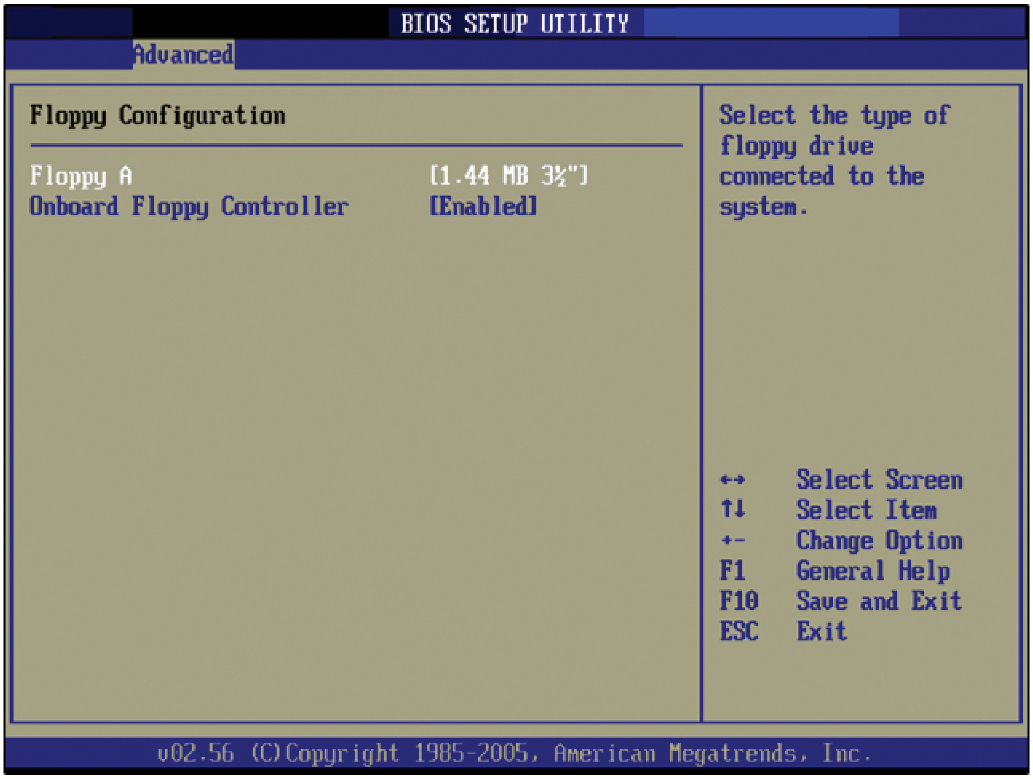
Parameter	Description	Option
Device	Type of IDE device.	
Vendor	Vendor of the selected IDE device.	
Size	Capacity of the selected IDE device.	
LBA Mode	LBA mode of the selected IDE device.	
Block Mode	Block mode of the selected IDE device.	
PIO Mode	PIO mode of the selected IDE device.	
Async DMA	Async DMA mode of the selected IDE device.	
Ultra DMA	Ultra DMA mode of the selected IDE device.	

Parameter	Description	Option
S.M.A.R.T.	Indicates if the selected device supports S.M.A.R.T. (Self-Monitoring, Analysis and Reporting Technology) function.	
Type	Selects the drive type.	**Auto** Not Installed CD-ROM ARMD
LBA/Large Mode	Selects the hard disk drive translation method. For drivers with more than 504 MB, LBA mode is necessary.	**Auto** Disabled
Block (Multi-Sector Transfer) Mode	Enhances disk performance depending on the hard disk in use. When set to Auto, the BIOS setup automatically detects if the installed hard disk drive supports the Block Mode function. If supported, it allows data transfer in blocks (multiple sectors at a rate of 256 bytes per cycle). When set to Disabled, data transfer from and to the device occurs one sector at a time.	**Auto** Disabled
PIO Mode	When set to Auto, the BIOS setup automatically detects if the installed hard disk supports the function. If supported, it allows for faster data recovery and read/write timing that reduces hard disk activity time. This results in better hard disk performance. Mode 0 to 4 provide progressive increase of performance.	**Auto** 0 1 2 3 4

Parameter	Description	Option
DMA Mode	Selects DMA (Direct Memory Access) mode.	**Auto** SWDMA0 SWDMA1 SWDMA2 MWDMA0 MWDMA1 MWDMA2 UDMA0 UDMA1 UDMA2 UDMA3 UDMA4 UDMA5
S.M.A.R.T.	Enables or disables the S.M.A.R.T. function of the internal hard disk. When set to Auto, the BIOS setup will enable the S.M.A.R.T. function if the drive supports it.	**Auto** Disabled Enabled
32Bit Data Transfer	Enables or disables the 32-bit data transfer function.	**Disabled** Enabled

Floppy Configuration

The Floppy Configuration submenu displays the type of floppy drive installed in the server.



BIOS SETUP UTILITY
Advanced

Floppy Configuration

Floppy A [1.44 MB 3½"]
Onboard Floppy Controller [Enabled]

Select the type of floppy drive connected to the system.

↔ Select Screen
↑↓ Select Item
+- Change Option
F1 General Help
F10 Save and Exit
ESC Exit

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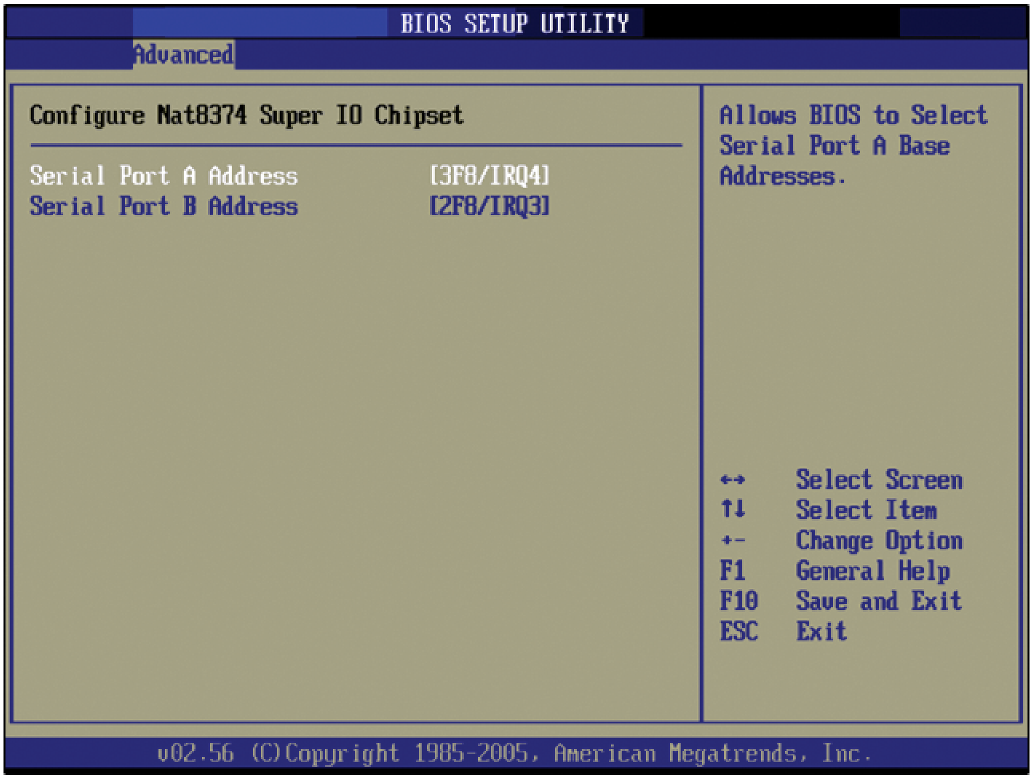
Parameter	Description	Option
Floppy A	Floppy disk drive type.	**1.44 MB 3 1/2”** 2.88 MB 3 1/2” 720 KB 3 1/2” Disabled
Onboard Floppy Controller	Allows BIOS to enable or disable the floppy controller.	**Enabled** Disabled

Super I/O Configuration

The Super I/O Configuration submenu lets you define the parameter settings for the system's serial port.


BIOS SETUP UTILITY
Advanced

Configure Nat8374 Super IO Chipset

```
Serial Port A Address          [3F8/IRQ4]
Serial Port B Address          [2F8/IRQ3]
```

Allows BIOS to Select Serial Port A Base Addresses.

↔ Select Screen
↑↓ Select Item
+- Change Option
F1 General Help
F10 Save and Exit
ESC Exit
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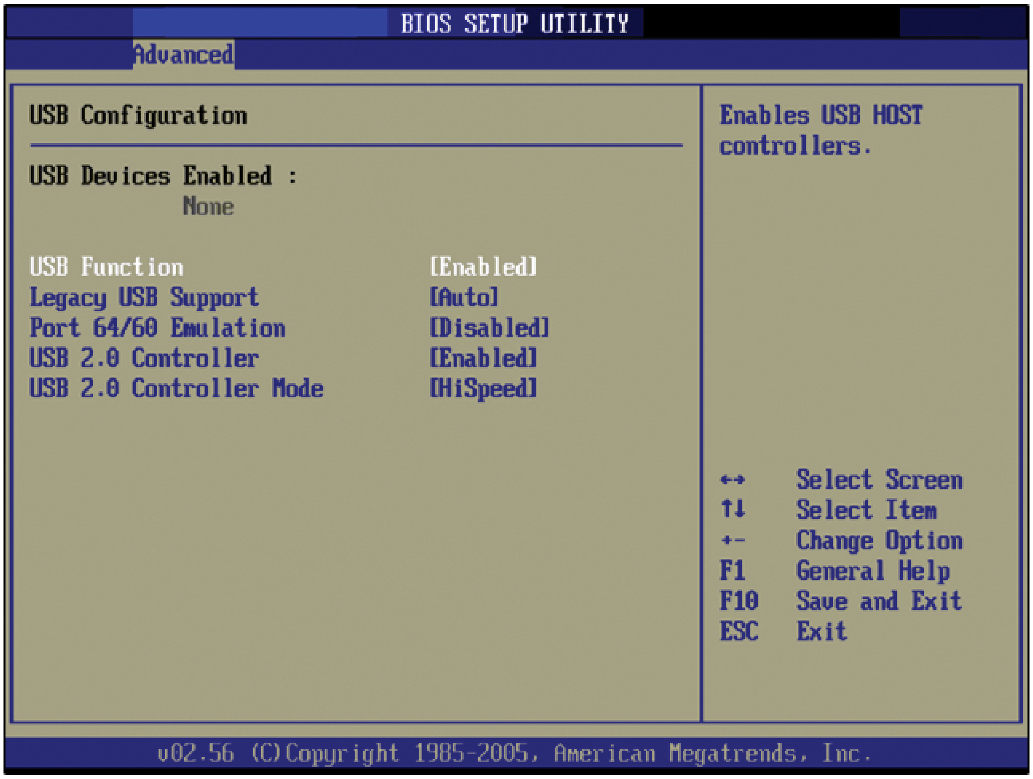
Parameter	Description	Option
Serial Port A	Indicates the serial port 1 address and IRQ setting.	**3F8/IRQ4** Disabled 2F8/IRQ3 3E8/IRQ4 2E8/IRQ3
Serial Port B	Indicates the serial port 2 address and IRQ setting.	**2F8/IRQ3** Disabled 3F8/IRQ4 3E8/IRQ4 2E8/IRQ3

USB Configuration

The USB Configuration submenu lets you specify settings for USB devices.



```
USB Configuration

USB Devices Enabled :
         None

USB Function                  [Enabled]
Legacy USB Support            [Auto]
Port 64/60 Emulation          [Disabled]
USB 2.0 Controller            [Enabled]
USB 2.0 Controller Mode       [HiSpeed]
```

```
Enables USB HOST
controllers.

↔     Select Screen
↑↓    Select Item
+-    Change Option
F1    General Help
F10   Save and Exit
ESC   Exit
```

```
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```

Parameter	Description	Option
USB Function	Enables or disables the UBS host controller. When set to Disabled, other USB options will be grayed out.	**Enabled** Disabled
Legacy USB Support	Enables or disables the support for legacy USB devices. When set to Auto, the system detects the presence of USB devices at startup. If a USB device is detected, the USB controller legacy mode will be enabled.	**Auto** Disabled Keyboard only Keyboard and Mouse
Port 60/64 Emulation	Enables the I/O port 60/64h emulation support. This parameter is enabled by default and is not user-configurable.	**Enabled**

Parameter	Description	Option
USB 2.0 Controller	Enables the USB 2.0 controller.	**Enabled** Disabled
USB 2.0 Controller Mode	Sets the transfer rate at HiSpeed (480 Mbps) or FullSpeed (12 MBps).	**HiSpeed** FullSpeed
USB Mass Storage Device Configuration	Lets you specify the settings of the USB mass storage class devices. Press **Enter** to access the USB Mass Storage Device Configuration submenu.	

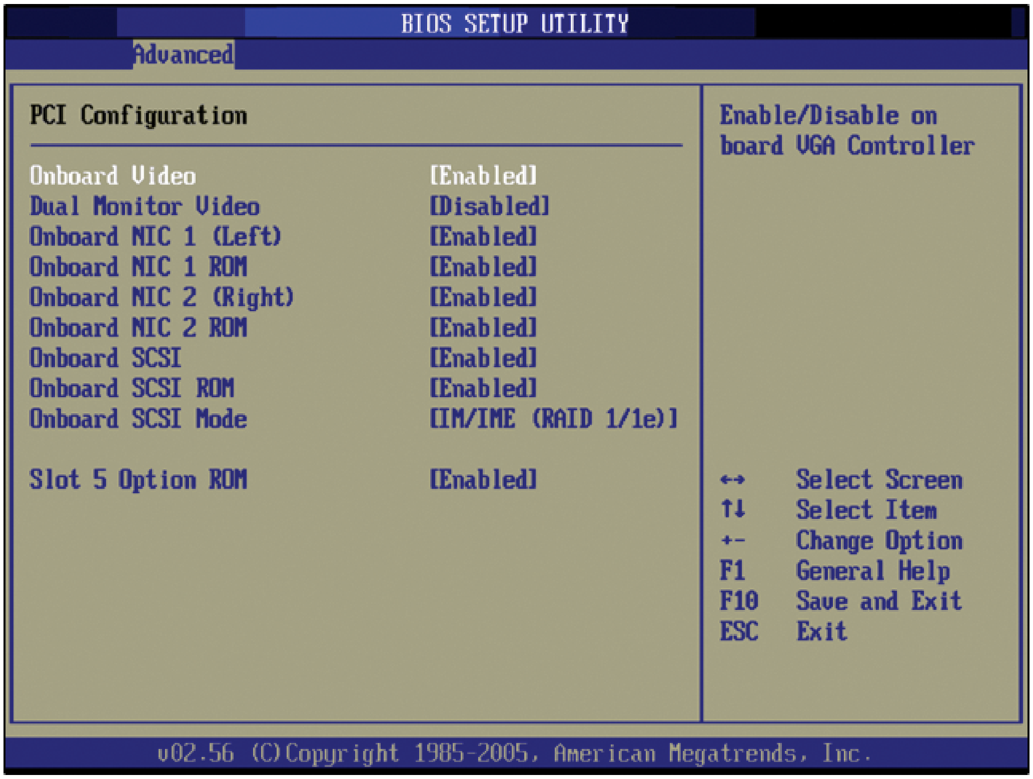
USB Mass Storage Device Configuration

The USB Mass Storage Device Configuration submenu lets you specify settings for a USB mass storage device, such as a USB CD-ROM, CD-ROM/RW, DVD combo drive, and hard disk drives.

Parameter	Description	Option
USB Mass Storage Reset Delay	Select the number of seconds POST waits for the USB mass storage device after the start unit command.	**20 Sec** 10 Sec 30 Sec 40 Sec
Device #1	Type of USB mass storage device.	
Emulation Type	When set to Auto, USB mass storage devices with less than 530 MB will be emulated as a floppy and the remaining drives are hard drives. The Forced FDD option can be used to force a formatted HDD to boot as a FDD.	**Auto** Floppy Forced FDD Hard Disk CD-ROM

PCI Configuration

The PCI Configuration submenu lets you specify settings that are related to the onboard controllers.



```
                       BIOS SETUP UTILITY
          Advanced
 PCI Configuration                             Enable/Disable on
                                               board VGA Controller
 Onboard Video                [Enabled]
 Dual Monitor Video           [Disabled]
 Onboard NIC 1 (Left)         [Enabled]
 Onboard NIC 1 ROM            [Enabled]
 Onboard NIC 2 (Right)        [Enabled]
 Onboard NIC 2 ROM            [Enabled]
 Onboard SCSI                 [Enabled]
 Onboard SCSI ROM             [Enabled]
 Onboard SCSI Mode            [IM/IME (RAID 1/1e)]

 Slot 5 Option ROM            [Enabled]        ↔    Select Screen
                                               ↑↓   Select Item
                                               +-   Change Option
                                               F1   General Help
                                               F10  Save and Exit
                                               ESC  Exit

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```
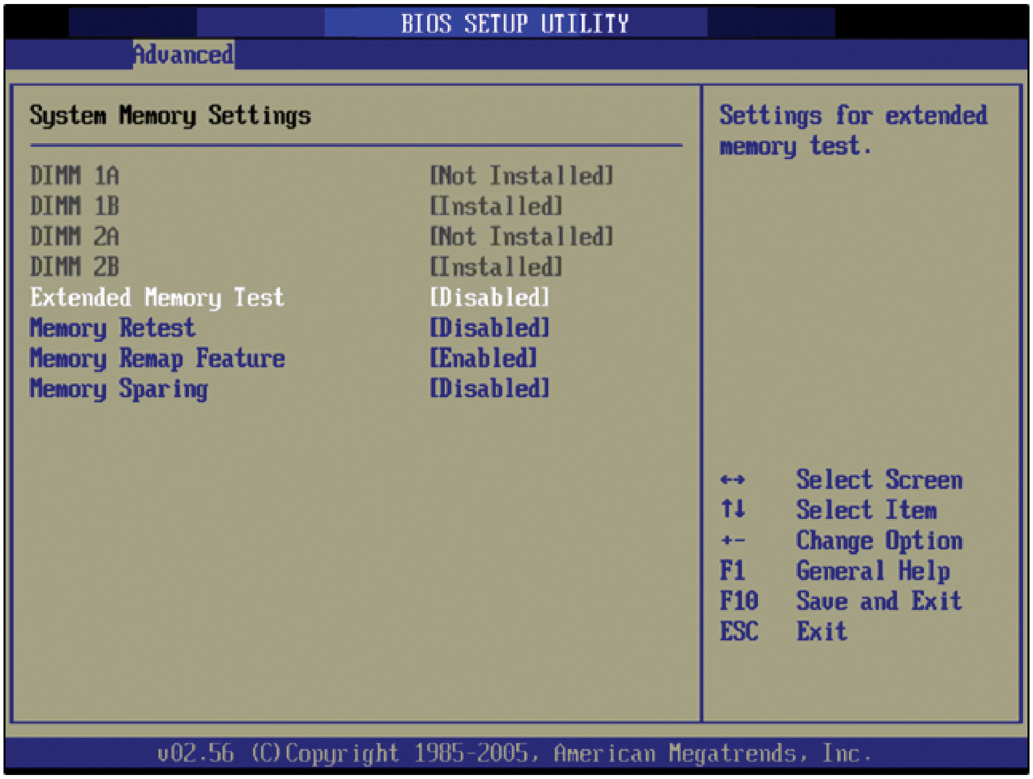

Parameter	Description	Option
Onboard Video	Enables or disables the onboard VGA controller.	**Enabled** Disabled
Dual Monitor Video	Select a graphic controller as a primary boot device. **Note:** This parameter will be grayed out when the Onboard Video is set to Disabled.	**Disabled** Enabled
Onboard NIC1 (Left)	Enables or disables the onboard NIC1 (Gigabit network interface controller).	**Enabled** Disabled
Onboard NIC1 ROM	Enables or disables the onboard NIC1 ROM.	**Enabled** Disabled

Parameter	Description	Option
Onboard NIC 2 (Right)	Enables or disables the onboard NIC2 (10Base-T/ 100Base/ 1000 Base network interface controller).	**Enabled** Disabled
Onboard NIC2 ROM	Enables or disables the onboard NIC2 ROM.	**Enabled** Disabled
Onboard SCSI	Enables or disables the onboard SCSI ontroller.	**Enabled** Disabled
Onboard SCSI ROM	Enables or disables the onboard SCSI ROM.	**Enabled** Disabled
Onboard SCSI Mode	Select a SCSI mode. Different RAID options, such as RAID 0, RAID 1 or expanded RAID arrays, are offered in the integrated SCSI controller.	**IM/IME (RAID1/ 1e)** IS (RAID 0)
Slot 5 Option ROM	Enables or disables the PCI 32/33 slot.	**Enabled** Disabled

Memory Configuration

The Memory Configuration submenu provides information about the DIMMs installed in DIMM slots 1A, 1B, 2A, and 2B.



BIOS SETUP UTILITY
Advanced

System Memory Settings

DIMM 1A [Not Installed]
DIMM 1B [Installed]
DIMM 2A [Not Installed]
DIMM 2B [Installed]
Extended Memory Test [Disabled]
Memory Retest [Disabled]
Memory Remap Feature [Enabled]
Memory Sparing [Disabled]

Settings for extended memory test.

←→ Select Screen
↑↓ Select Item
+- Change Option
F1 General Help
F10 Save and Exit
ESC Exit
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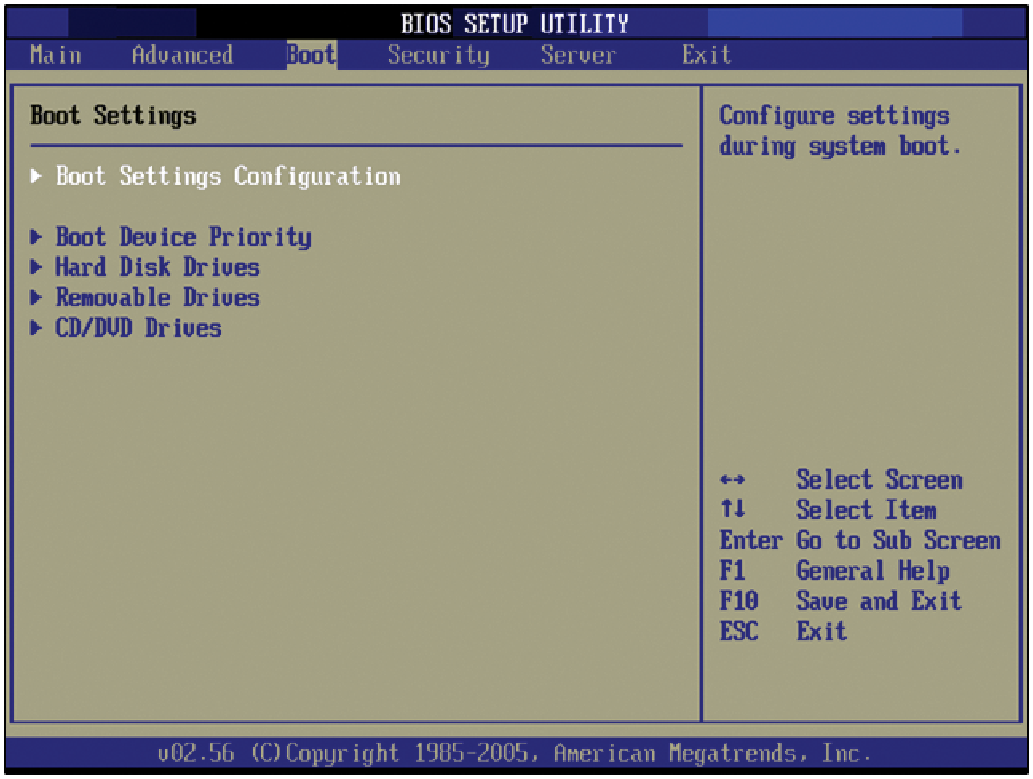
Parameter	Description	Option
DIMM 1A, 1B, 2A and 2B	Indicates the current memory status.	**Installed** Not Installed Disabled Spare
Extended Memory Test	Settings for extended memory test.	**Disabled** 1 MB 1 KB Every Location

Parameter	Description	Option
Memory Retest	When Enabled, BIOS will activate and retest all DIMMs on next boot. **Note:** This parameter will automatically reset to Disabled.	**Disabled** Enabled
Memory Remap Feature	Enables or disables remapping of overlapped PCI memory above the physical memory.	**Enabled** Disabled
Memory Sparing	When set to Spare, a DIMM slot is kept in reserve for standby in the event a significant failure occurs in the primary DIMM. If a threshold of runtime error occurs in the primary DIMM, that DIMM will have its data copied to the spare DIMM.	**Disabled** Spare

Boot

The Boot menu allows you to set the drive priority during system bootup. It also displays information about the installed storage devices.

Press **Enter** to enter the submenu screen of the parameters shown in the screen below.


BIOS SETUP UTILITY
Main
Advanced
Boot
Security
Server
Exit

Boot Settings

- Boot Settings Configuration

- Boot Device Priority
- Hard Disk Drives
- Removable Drives
- CD/DVD Drives

Configure settings during system boot.

↔	Select Screen
↑↓	Select Item
Enter	Go to Sub Screen
F1	General Help
F10	Save and Exit
ESC	Exit

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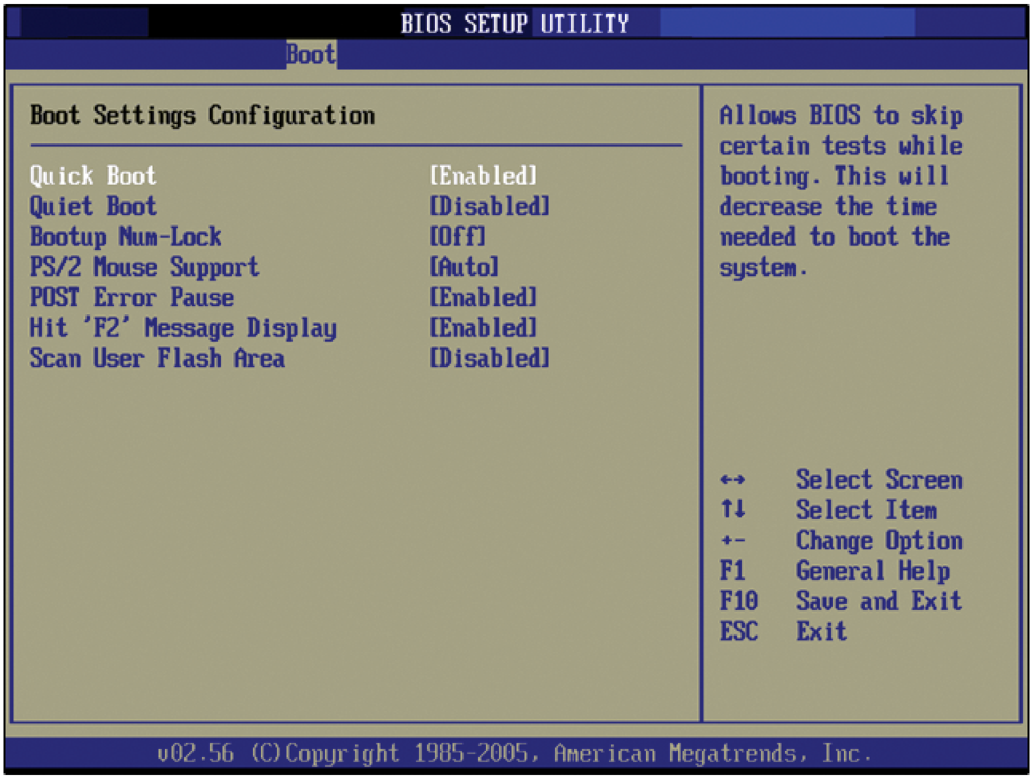
Boot Settings Configuration

The Boot Settings Configuration submenu lets you specify the preferred settings for system bootup.


BIOS SETUP UTILITY
Boot

Boot Settings Configuration

```
Quick Boot                    [Enabled]
Quiet Boot                    [Disabled]
Bootup Num-Lock               [Off]
PS/2 Mouse Support            [Auto]
POST Error Pause              [Enabled]
Hit 'F2' Message Display      [Enabled]
Scan User Flash Area          [Disabled]
```

Allows BIOS to skip certain tests while booting. This will decrease the time needed to boot the system.

↔ Select Screen
↑↓ Select Item
+- Change Option
F1 General Help
F10 Save and Exit
ESC Exit
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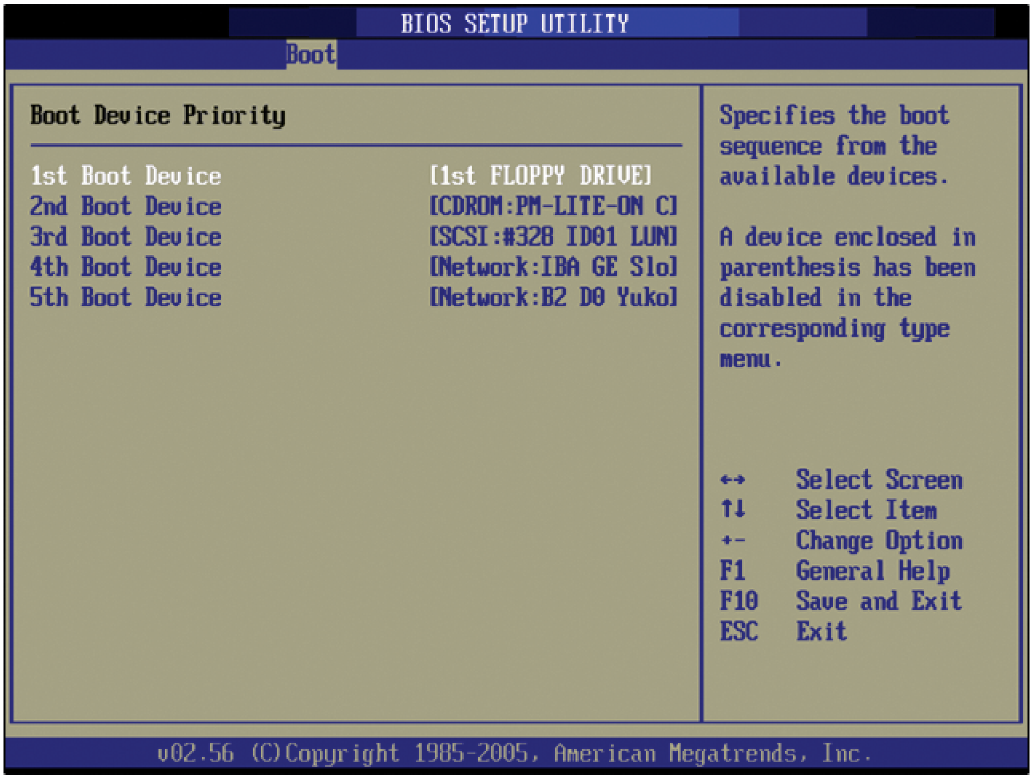
Parameter	Description	Option
Quick Boot	Allows the system to boot faster by skipping some POST routine.	**Enabled** Disabled
Quiet Boot	Enables or disables the Quiet Boot function. When set to Enabled, BIOS setup is in graphical mode and displays only an identification logo during POST and while booting. After booting the screen displays the operating system prompt (such as DOS) or logo (such as Windows). If any error occurs while booting, the system automatically switched to text mode.	**Disabled** Enabled

Parameter	Description	Option
Bootup Num-Lock	Activates the Numeric Lock function upon booting.	**Off** On
PS/2 Mouse Support	Enable this parameter if you intend to use a mouse or trackball with a PS/2 interface.	**Auto** Enabled Disabled
POST Error Pause	When this parameter is Enabled, you will be prompted when an error is detected during boot up. When set to Disabled, the system will boot with no intervention, if possible.	**Enabled** Disabled
Hit ‘F2’ Message Display	When this parameter is Enabled, you will be prompted to press **F2** to run BIOS during boot up.	**Enabled** Disabled
Scan User Flash Area	Allows BIOS to scan Flash ROM for user binaries.	**Disabled** Enabled

Boot Device Priority

The Boot Device Priority submenu lets you specify the boot search sequence during the POST process.

BIOS setup will display an error message if the drive(s) specified is not bootable.



```
                         BIOS SETUP UTILITY
                   Boot
 Boot Device Priority                                  Specifies the boot
                                                       sequence from the
 1st Boot Device             [1st FLOPPY DRIVE]        available devices.
 2nd Boot Device             [CDROM:PM-LITE-ON C]
 3rd Boot Device             [SCSI:#328 ID01 LUN]      A device enclosed in
 4th Boot Device             [Network:IBA GE Slo]      parenthesis has been
 5th Boot Device             [Network:B2 D0 Yuko]      disabled in the
                                                       corresponding type
                                                       menu.

                                                       ↔    Select Screen
                                                       ↑↓   Select Item
                                                       +-   Change Option
                                                       F1   General Help
                                                       F10  Save and Exit
                                                       ESC  Exit

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```
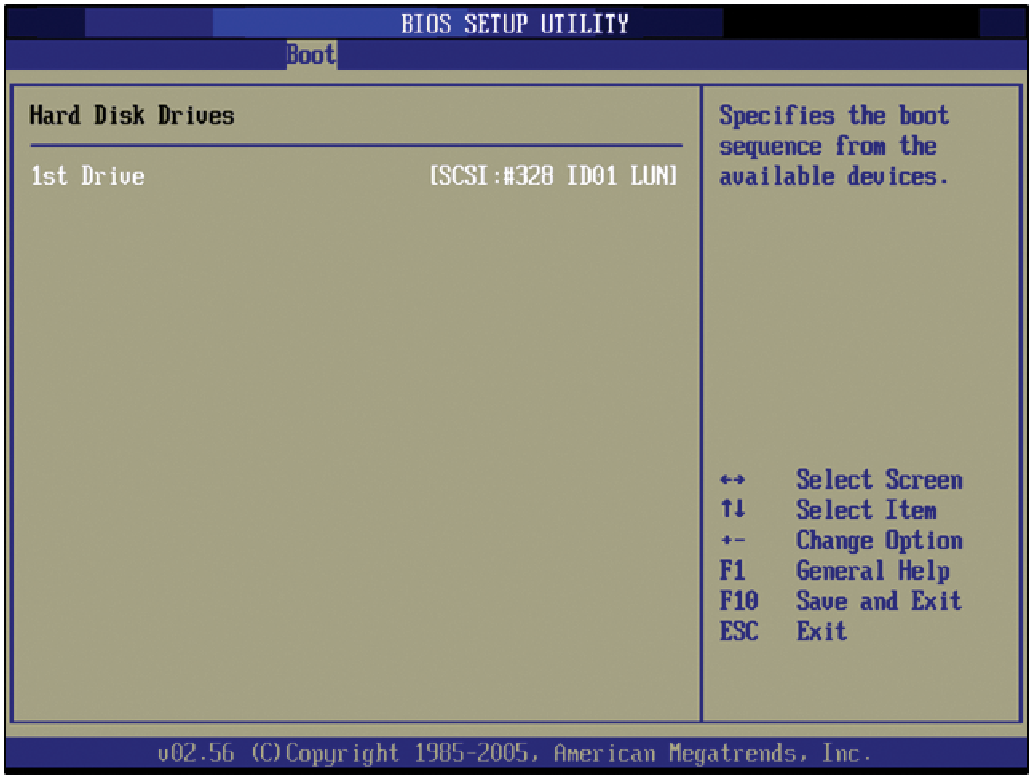

Parameter	Description
1st Boot Device	Sets the device from which the system will first attempt to boot up. Press **Enter** to access the Removable Drives submenu.
2nd Boot Device	Sets the device from which the system will attempt to boot up when the first attempt failed. Press **Enter** to access the CD/DVD Drives submenu.
3rd Boot Device	Sets the device from which the system will attempt to boot up when the first and second attempts failed. Press **Enter** to access the Hard Disk Drives submenu.

Parameter	Description
4th and 5th Boot Device	Sets the device from which the system will attempt to boot up when the first, second and third attempts failed.

Hard Disk Drives

The Hard Disk Drives submenu lets you specify the devices that will be considered as the primary and secondary hard drives.


BIOS SETUP UTILITY
Boot
↔ Select Screen
↑↓ Select Item
+- Change Option
F1 General Help
F10 Save and Exit
ESC Exit

Hard Disk Drives

1st Drive [SCSI:#328 ID01 LUN]

Specifies the boot sequence from the available devices.

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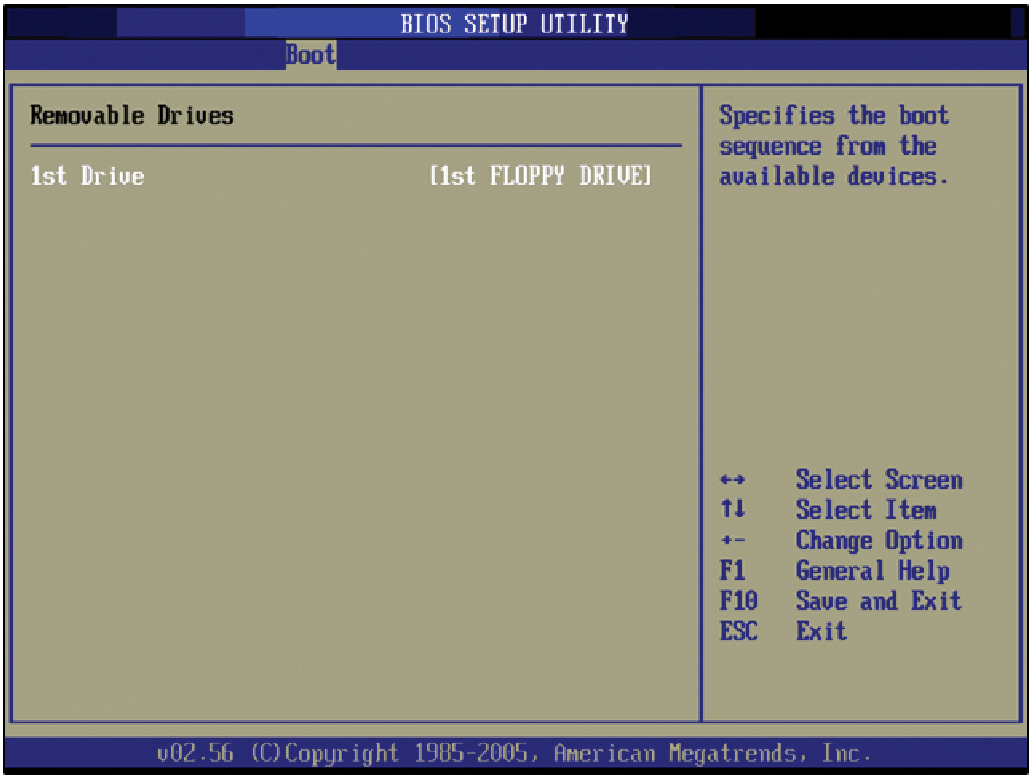
Removable Drives

The Removable Drives submenu displays the type of removable devices installed in the system.



```
                         BIOS SETUP UTILITY
             Boot
 Removable Drives                          Specifies the boot
                                           sequence from the
 1st Drive               [1st FLOPPY DRIVE] available devices.

                                           ←→   Select Screen
                                           ↑↓   Select Item
                                           +-   Change Option
                                           F1   General Help
                                           F10  Save and Exit
                                           ESC  Exit
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```
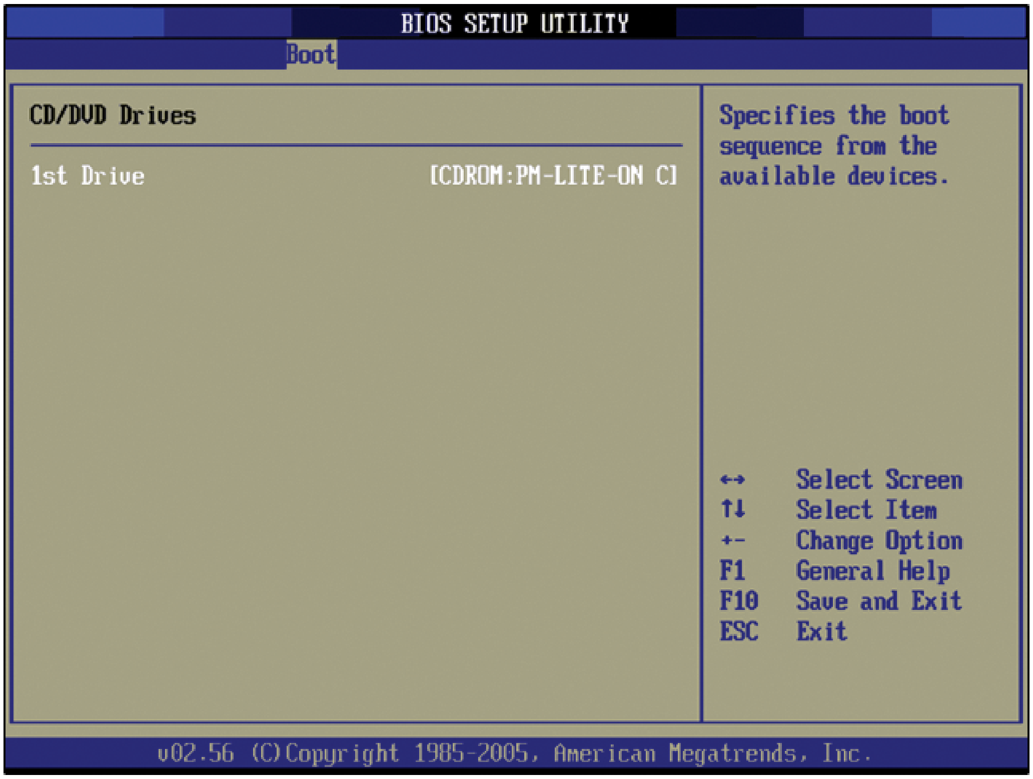

CD/DVD Drives

The CD/DVD Drives submenu displays the type of ATAPI CD-ROM installed in the system.



BIOS SETUP UTILITY
Boot

CD/DVD Drives

1st Drive [CDROM:PM-LITE-ON C]

Specifies the boot sequence from the available devices.

↔ Select Screen
↑↓ Select Item
+- Change Option
F1 General Help
F10 Save and Exit
ESC Exit
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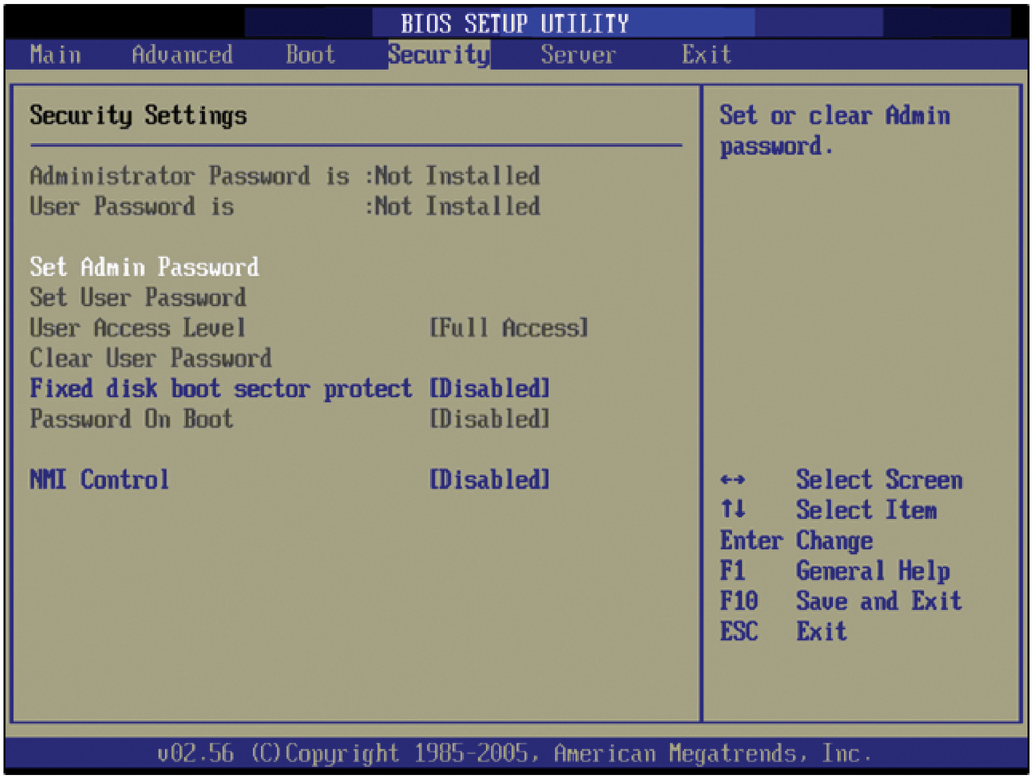
Security

The Security menu allows you to safeguard and protect the system from unauthorized use by setting up access passwords.


BIOS SETUP UTILITY
Main
Advanced
Boot
Security
Server
Exit
↔ Select Screen
↑↓ Select Item
Enter Change
F1 General Help
F10 Save and Exit
ESC Exit

```
Security Settings

Administrator Password is :Not Installed
User Password is          :Not Installed

Set Admin Password
Set User Password
User Access Level                [Full Access]
Clear User Password
Fixed disk boot sector protect   [Disabled]
Password On Boot                 [Disabled]

NMI Control                      [Disabled]

Set or clear Admin
password.

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```

Parameter	Description	Option
Administrator Password	Prevents unauthorized access to the BIOS setup utility.	**Not Installed** Installed
User Password	Secures the system against unauthorized use. Once you set this password, you have to type it whenever you boot the system. User password is available only when a Supervisor password is set.	**Not Installed** Installed
Set Admin Password	Press **Enter** to change the Administrator password.	
Set User Password	Press **Enter** to change the User password.	

Parameter	Description	Option
User Access Level	When set to Full Access, allows access to any field in the BIOS setup utility. When set to No Access, user is not allowed to access the BIOS setup utility. When set to View Only, allows access to the BIOS setup utility but fields cannot be changed. When set to Limited, allows access to Date and Time in the BIOS setup utility.	**Full Access** No Access View Only Limited
Clear User Password	Clears the User password. **Note:** This parameter is grayed out when the Administrator password is not set.	
Fixed Disk Boot Sector Protect	Enable or disables Boot Sector Virus Protection.	**Disabled** Enabled
Password On Boot	Select Enabled to activate security check during POST.	**Disabled** Enabled
NMI Control	Enables or disables NMI control.	**Disabled** Enabled

Setting the Administrator/User password:

1. Use the up/down keys to highlight a password parameter (Administrator Password or User Password) then press **Enter**.

   A password box will appear.

2. Type a password then press **Enter**.

   The password may consist of up to six alphanumeric characters (A-Z, a-z, 0-9).

3. Retype the password to verify the first entry then press **Enter** again.

   After setting the password, the system automatically sets the chosen password parameter to Installed.

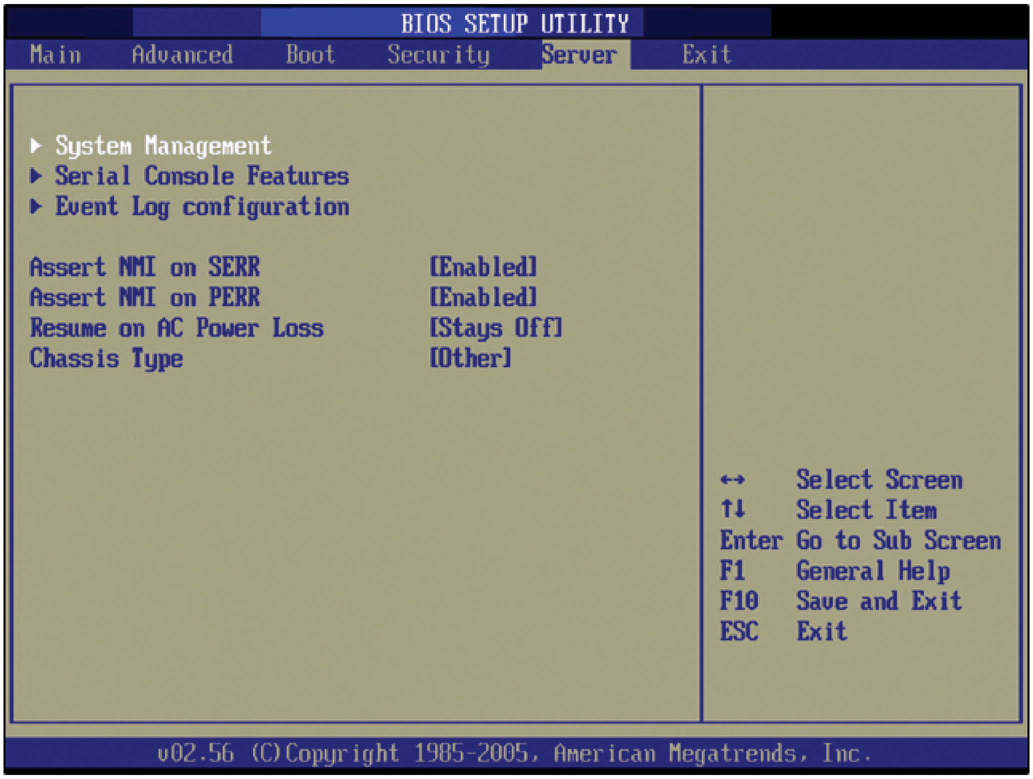
Removing the User password

1. Use the up/down keys to highlight the Clear User Password parameter then press **Enter**.
2. Enter the current password then press **Enter**.
3. Press **Enter** twice without entering anything in the new and confirm password fields.

   After doing this, the system automatically sets the User password parameter to Not Installed.

Server

The Server menu allows you to configure appropriate settings for monitoring the server.


BIOS SETUP UTILITY
Main
Advanced
Boot
Security
Server
Exit
▸ System Management
▸ Serial Console Features
▸ Event Log configuration
↔ Select Screen
↑↓ Select Item
Enter Go to Sub Screen
F1 General Help
F10 Save and Exit
ESC Exit
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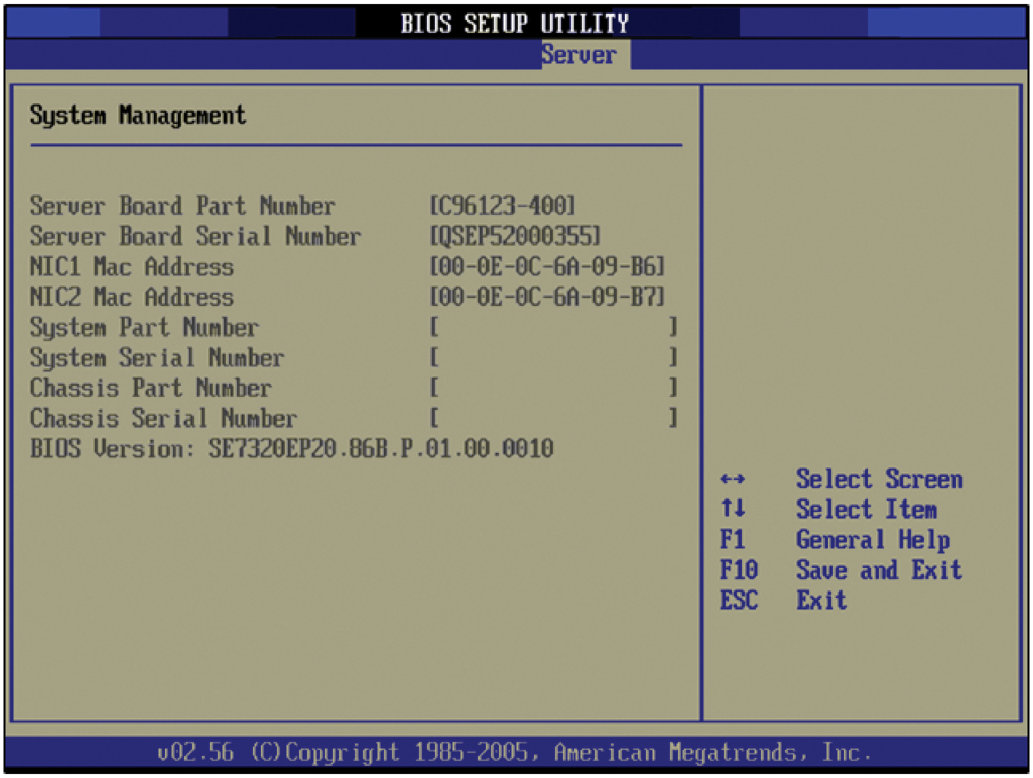
Assert NMI on SERR [Enabled]
Assert NMI on PERR [Enabled]
Resume on AC Power Loss [Stays Off]
Chassis Type [Other]

Parameter	Description	Option
System Management	Press **Enter** to access the System Management submenu.	
Serial Console Features	Press **Enter** to access the Serial Console Features submenu.	
Event Log Configuration	Press **Enter** to access the Event Log Configuration.	
Assert NMI on SERR	Enables or disables the PCI bus SERR (system error) support.	**Enabled** Disabled

Parameter	Description	Option
Assert NMI on PERR	Enables or disables the PCI bus PERR (parity error) support. **Note:** This parameter is disabled when the NMI on SERR is disabled.	**Enabled** Disabled
Resume on AC Power Loss	Defines the mode of operation if a power loss occurs. When set to Stays Off, the system remains off after power shutdown. When set to Power On, the system will turn on after power is restored.	**Stays Off** Power On
Chassis Type	Indicates the chassis that controls the speed of the system fan.	**Other**

System Management

The System Management submenu displays specific system information. The screen below is for your reference only, system configuration may vary.



```
System Management

Server Board Part Number        [C96123-400]
Server Board Serial Number      [QSEP52000355]
NIC1 Mac Address                [00-0E-0C-6A-09-B6]
NIC2 Mac Address                [00-0E-0C-6A-09-B7]
System Part Number              [                 ]
System Serial Number            [                 ]
Chassis Part Number             [                 ]
Chassis Serial Number           [                 ]
BIOS Version: SE7320EP20.86B.P.01.00.0010

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```
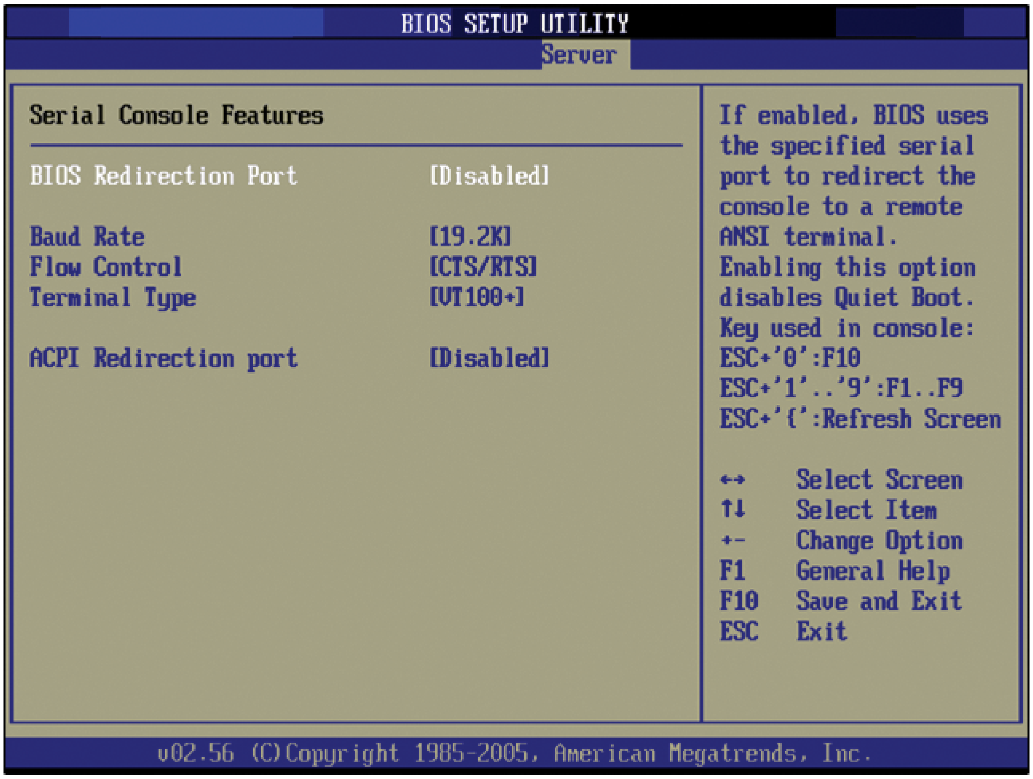

Serial Console Features

The Serial Console Features submenu allows you to configure the serial port settings.



```
                        BIOS SETUP UTILITY
                                  Server
 Serial Console Features                          If enabled, BIOS uses
                                                  the specified serial
 BIOS Redirection Port        [Disabled]          port to redirect the
                                                  console to a remote
 Baud Rate                    [19.2K]             ANSI terminal.
 Flow Control                 [CTS/RTS]           Enabling this option
 Terminal Type                [VT100+]            disables Quiet Boot.
                                                  Key used in console:
 ACPI Redirection port        [Disabled]          ESC+'0':F10
                                                  ESC+'1'..'9':F1..F9
                                                  ESC+'{':Refresh Screen

                                                  ↔     Select Screen
                                                  ↑↓    Select Item
                                                  +-    Change Option
                                                  F1    General Help
                                                  F10   Save and Exit
                                                  ESC   Exit

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```
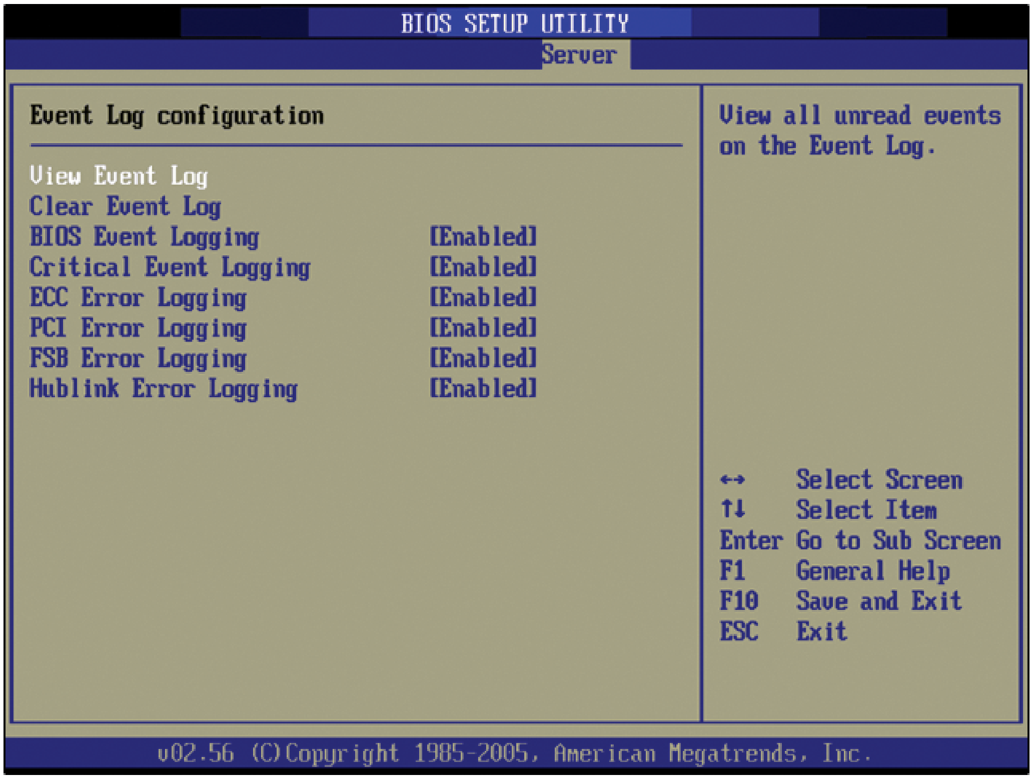

Parameter	Description	Option
BIOS Redirection Port	Specify the serial port where a hardware console is connected.	**Disabled** Serial A Serial B
Baud Rate	Selects the baud rate or transfer speed for console redirection.	**19.2 K** 9600 38.4 K 57.6 K 115.2 K
Flow Control	Selects a flow control for the system. CTS/RTS: Hardware XON/XOFF: Software CTS/RTS + CD: Hardware + Carrier Detect for modem use	**CTS/RTS** XON/XOFF CTS/RTS + CD No Flow Control

Parameter	Description	Option
Terminal Type	Specify the type of remote console.	**VT100+** VT-UTF8 PC-ANSI
ACPI Redirection Port	Specify the serial port where an ACPI (Advanced Configuration and Power Interface) console is connected.	**Disabled** Serial A Serial B

Event Log Configuration

The Event Log Configuration submenu allows you to record and monitor events that occur in the system (e.g. system temperature changes, fan stops, etc.).



```
                         BIOS SETUP UTILITY
                                         Server
Event Log configuration                          View all unread events
                                                 on the Event Log.
View Event Log
Clear Event Log
BIOS Event Logging              [Enabled]
Critical Event Logging          [Enabled]
ECC Error Logging               [Enabled]
PCI Error Logging               [Enabled]
FSB Error Logging               [Enabled]
Hublink Error Logging           [Enabled]
                                                 ↔     Select Screen
                                                 ↑↓    Select Item
                                                 Enter Go to Sub Screen
                                                 F1    General Help
                                                 F10   Save and Exit
                                                 ESC   Exit

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```
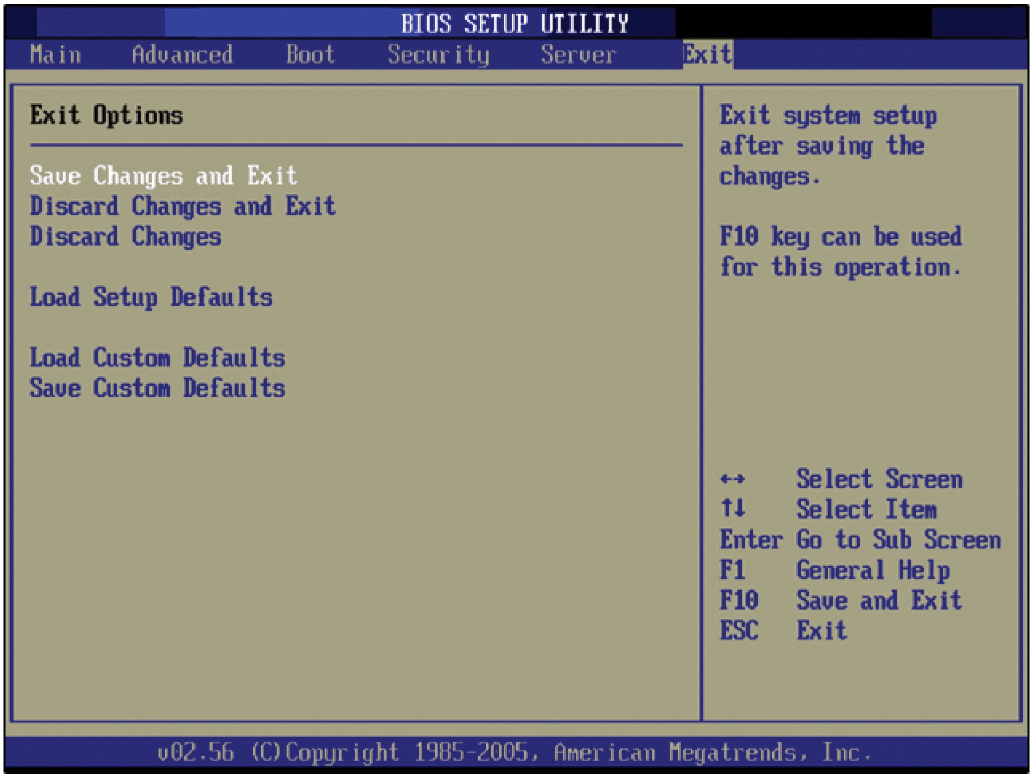

Parameter	Description	Option
View Event Log	Opens the system Event log file for viewing.	
Clear Event Log	Discards all events in the Event log.	
BIOS Event Logging	Enables or disables the event logging function of the sytem.	**Enabled** Disabled
Critical Event Logging	Enables or disables the critical event logging function of the system. Critical errors are fatal to system operation, these include PERR, SERR and ECC.	**Enabled** Disabled

Parameter	Description	Option
ECC Error Logging	Enables or disables the ECC (Error Correcting Code) event logging function of the system. ECC tests the accuracy of data as it passes in and out of memory. When this parameter is enabled, single-bit and multi-bit memory errors will be recorded in the event log.	**Enabled** Disabled
PCI Error Logging	Enables or disables the PCI error logging. PCI (Peripheral Component Interconnect) is a 32-bit bus that supports a 64-bit extension for new processors, such as Pentium processors. It can run at clock speeds of 33 or 66 MHz. When this parameter is enabled, any PCI device error will be recorded in the event log.	**Enabled** Disabled
FSB Error Logging	Enables or disables the FSB (Front-Side Bus) error logging function of the sytem.	**Enabled** Disabled
Hublink Error Logging	Enables or disables the Hublink error logging function of the system.	**Enabled** Disabled

Exit

The Exit menu displays the various options to quit from the BIOS setup utility. Highlight any of the exit options then press **Enter**.



BIOS SETUP UTILITY
Main
Advanced
Boot
Security
Server
Exit

Exit Options

Save Changes and Exit
Discard Changes and Exit
Discard Changes

Load Setup Defaults

Load Custom Defaults
Save Custom Defaults

Exit system setup after saving the changes.

F10 key can be used for this operation.

↔ Select Screen
↑↓ Select Item
Enter Go to Sub Screen
F1 General Help
F10 Save and Exit
ESC Exit

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Parameter	Description
Save Changes and Exit	Saves changes made and close the BIOS setup utility. The **F10** key can also be used for this operation.
Discard Changes and Exit	Exits system setup without saving any changes. The **Esc** key can also be used for this operation.
Discard Changes	Discards changes made in the BIOS setup. The **F7** key can also be used for this operation.

Parameter	Description
Load Setup Defaults	Loads the default settings for all BIOS setup parameters. Setup Defaults are quite demanding in terms of resources consumption. If you are using low-speed memory chips or other kinds of low-performance components and you choose to load these settings, the system might not function properly. The **F9** key can also be used for this operation.
Load Custom Defaults	Loads the custom settings for all BIOS setup parameters.
Save Custom Defaults	Saves the custom settings for all BIOS setup parameters.

5 Troubleshooting

This chapter provides possible solutions for specific problems. If you cannot correct the problem, contact your local Acer representative or authorized dealer for assistance.

Resetting the system

Before going through in-depth troubleshooting, attempt first to perform reset the system using one of the methods below.

To do this	Press
Soft boot reset to clear the system memory and reload the operating system.	Ctrl+Alt+Del
Cold boot reset. Turn the system power off and then on. This clears system memory, restarts POST, reloads the operating system and halts power to all peripherals.	Power off/on

Problems following initial system installation

Problems that occur at initial system startup are usually caused by an incorrect installation or configuration. Hardware failure is a less frequent cause. If the problem you are experiencing is with a specific software application, see "There is problem with the application software" on page 130.

First steps checklist

- AC power available at the wall outlet?
- Are the power supplies plugged in? Check the AC cable(s) on the back of the chassis and at the AC source.
- Are all cables correctly connected and secured?
- Are the processors fully seated in their sockets on the server board?
- Are all standoffs in the proper location and not touching any components, causing a potential short?
- Are all add-in PCI boards fully seated in their slots on the server board?
- Are all jumper settings on the server board correct?
- Are all jumper and switch settings on add-in boards and peripheral devices correct? To check these settings, refer to the manufacturer's documentation that comes with them. If applicable, ensure that there are no conflicts - for example, two add-in boards sharing the same interrupt.
- Are all peripheral devices installed correctly?
- If the system has a hard disk drive, is it properly formatted or configured?
- Are all device drivers properly installed?
- Are the configuration settings made in Setup correct?
- Is the operating system properly loaded? Refer to the operating system documentation.
- Did you press the system power on/off switch on the control panel to turn the server on (power on light should be lit)?
- Is the system power cord properly connected to the system and plugged into a NEMA 5-15R outlet for 100-120 V or a NEMA 6-15R outlet for 200-240 V?
- Are all integrated components from the tested components lists? Check the tested memory, and chassis lists, as well as the supported hardware and operating system list.

Hardware diagnostic testing

This section provides a more detailed approach to identifying a hardware problem and locating its source.

Caution! Turn off devices before disconnecting cables: Before disconnecting any peripheral cables from the system, turn off the system and any external peripheral devices. Failure to do so can cause permanent damage to the system and/or the peripheral devices.

1. Turn off the system and all external peripheral devices. Disconnect each of device from the system, except for the keyboard and the video monitor.
2. Make sure the system power cord is plugged into a properly grounded AC outlet.
3. Make sure your video display monitor and keyboard are correctly connected to the system. Turn on the video monitor. Set its brightness and contrast controls to at least two thirds of their maximum ranges (see the documentation supplied with your video display monitor).
4. If the operating system normally loads from the hard disk drive, make sure there is no diskette in drive A and no CD-ROM disk in the CD-ROM drive.
5. If the power LED does light, attempt to boot from a floppy diskette or from a CD-ROM disk.
6. Turn on the system. If the power LED does not light, see “Power indicator does not light” on page 127.

Verifying proper operation of key system lights

As POST determines the system configuration, it tests for the presence of each mass storage device installed in the system. As each device is checked, its activity light should turn on briefly. Check for the following:

Does the diskette drive activity light turn on briefly? If not, see "FDD activity indicator does not light." on page 127.

Confirming loading of the OS

Once the system boots up, the operating system prompt appears on the screen. The prompt varies according to the operating system. If the operating system prompt does not appear, see "No Characters Appear on Screen" on page 131.

Specific problems and corrective actions

The following contains specific problems that may arise during the use of your server. Possible solutions are listed for each problem.

Power indicator does not light.

Do the following:

- Make sure the power button on the front panel is turned on.
- Make sure the hot-swap power supply module is propely installed.

  Refer to “Upgrading the power supply” on page 72 for instructions.
- Make sure the power cable is connected correctly.
- Make sure that the wall outlet has power. Test it by plugging another device.
- Remove all add-in cares and see if the system boots. If successful, add the cards back in one at a time with a reboot between each addition.
- Make sure the memory modules comply with the system requirements.
- Make sure the memory modules have been populated according to the system requirements.
- Remove the memory modules and reseat them.
- Make sure the CPU(s) comply with the system requirements.
- Make sure the CPU(s) have been populated according to the system requirements.

FDD activity indicator does not light.

Do the following:

- Make sure the FDD and signal cables are properly connected.
- Check that relevant switches and jumpers for the FDD are set correctly.
- Check that FDD is properly configured.
- If you are using the onboard diskette controller, use BIOS setup on page 79 to make sure that onboard “Floppy A” is set to **1.44 MB, 3.5-inch**.

HDD activity indicator does not light.

Do the following:

- Make sure the drive is not disabled in the BIOS setup utility.
- Make sure the drive’s power and data cables are connected correctly.
- Make sure the drive is compatible.
- Make sure you have not exceeded the power budget for the server.
- If using SCSI drives, make sure that each SCSI ID number is unique on the SCSI bus. See your drive documentation for details on setting the SCSI ID for your drives.
- If using SATA drives, make sure that the master or slave settings are set correctly. See your drive documentation for details on setting the master or slave settings.
- If using a RAID configuration with SCSI or SATA drives, make sure the RAID card is installed correctly.

HDD activity indicator does not light.

If you have installed one or more hard drives in the system, do the following:

- Make sure the power and signal cables are connected correctly.
- Check that relevant switches and jumpers on the hard drive and SCSI or SATA backplane board are set correctly.

CD drive activity indicator does not light.

Do the following:

- Make sure the power and signal cables are properly installed.
- Check that relevant switched and jumpers on the drive are set correctly.
- Check that drive is properly configured.
- Check that onboard IDE controller is enabled in the BIOS setup.

CD tray cannot be ejected.

Do the following:

- Insert the tip of a paperclip into the small hole on the CD drive. Slowly pull the tray out from the drive until the tray is fully extended then remove the disc.

CD drive cannot read a CD.

Do the following:

- Make sure you are using the correct type of CD.
- Make sure the CD is properly seated in the drive.
- Make sure the disc is unscratched.
- Make sure all cables are connected to the CD drive.

New memory modules installed are not detected.

Do the following:

- Make sure the memory modules are properly seated on the DIMM slots.
- Make sure the memory modules comply with the system requirements.
- Make sure the memory modules have been populated according to the system requirements.

Network status indicator does not light.

Do the following:

- Check the cabling and network equipment to make sure that all cables are properly connected.
- Reinstall the network drivers.
- Try another port or hub on the switch.

Network activity indicator does not light.

Do the following:

- Make sure the correct network drivers are loaded on the system.
- Network might be idle. Try accessing the server.

Server hangs when the drivers are loaded.

- Change the PCI interrrupt settings.

External device connected to a USB connector does not work.

Do the following:

- Reduce the number of external devices connected to a USB hub.
- Refer to the documentation that comes with the device.

There is problem with the application software.

Do the following:

- Verify that the software is properly configured for the system. Refer to the software installation and operation documentation for instructions on setting up and using the software.
- Try a different version of the software to see if the problem is with the copy you are using.
- Make sure all cables are properly connected.
- If other software runs correctly on the system, contact your vendor about the defective software.

No characters appear on the screen.

Check the following:

- Is the keyboard functioning? Test it by turning the “Num Lock” function on and off to make sure the Num Lock light is functioning.
- Is the video monitor plugged in and turned on? If you are using a switch box, is it switched to the correct system?
- Are the brightness and contrast controls on the video monitor properly adjusted?
- Is the video monitor signal cable properly installed?
- Does this video monitor work correctly if plugged into a different system?
- Is the onboard video controller enabled in the BIOS?
- Remove all add-in cares and see if the system boots. If successful, add the cards back in one at a time with a reboot between each addition.
- Make sure the memory modules comply with the system requirements.
- Make sure the memory modules have been populated according to the system requirements.
- Remove the memory modules and reseat them.
- Make sure the CPU(s) comply with the system requirements.
- Make sure the CPU(s) have been populated according to the system requirements.

If you are using an add-in video controller board, do the following:

1 Verify that the video works using the onboard video controller.
2 Verify that the video controller board is fully seated in the server board connector.
3 Reboot the system for changes to take effect.
4 If there are still no characters on the screen after you reboot the system and POST emits a beep code, write down the beep code you hear. This information is useful for your service representative.
5 If you do not receive a beep code and characters do not appear, the video display monitor or video controller may have failed. Contact your service representative or authorized dealer for help.

BIOS error messages

When a recoverable error occurs during POST, BIOS will display an error message describing the problem.

The following table defines the error messages that may be displayed if the system BIOS detects an error during POST.

Error message	Description
Memory BIOS messages	
Gate20 error	An error occurred with Gate A20 when switching to protected mode during the memory test.
Multi-Bit ECC Error	A multiple bit corruption of memory has occurred, and the ECC memory algorithm cannot correct it.
Parity Error	Fatal Memory Parity Error.
Boot BIOS messages	
Boot Failure	Could not boot from a particular device .
Invalid Boot Diskette	A diskette was found in the diskette drive, but is not configured as a bootable diskette.
Drive Not Ready	Corresponding drive is not ready for data transfer.
A: Drive Error	No response from diskette drive.
Insert BOOT diskette in A:	Could not find a proper boot diskette in drive A.
Reboot and Select proper Boot device or Insert Boot Media in selected Boot device.	Could not find a bootable device in the system and/or removable media drive does not contain media.
NO ROM BASIC	No bootable device was detected.

Error message	Description
Storage device BIOS messages	
Primary Master/Slave Hard Disk Error Secondary Master/Slave Hard Disk Error 3rd Master/Slave Hard Disk Error 4th Master/Slave Hard Disk Error 5th Master/Slave Hard Disk Error 6th Master/Slave Hard Disk Error	Could not read sector from corresponding drive.
Primary Master/Slave Drive - ATAPI Incompatible Secondary Master/Slave Drive - ATAPI Incompatible 3rd Master/Slave Drive - ATAPI Incompatible 4th Master/Slave Drive - ATAPI Incompatible 5th Master/Slave Drive - ATAPI Incompatible 6th Master/Slave Drive - ATAPI Incompatible	Corresponding drive is not an ATAPI device. Run Setup to make sure device is selected correctly.
S.M.A.R.T. capable but Command Failed	Failed to send a S.M.A.R.T. message to a hard disk.
S.M.A.R.T. Status BAD, Backup and Replace	An imminent failure is detected by a S.M.A.R.T. capable hard disk drive.

Error message	Description
Virus related BIOS message	
BootSector Write !!	A software attempting to write to a drive's boot sector has been detected. This is flagged as possible virus activity. This message will only be displayed if Virus Detection is enabled in the BIOS setup.
VIRUS: Continue (Y/N)?	A possible virus activity is detected. This message will only be displayed if Virus Detection is enabled in the BIOS setup.
System configuration BIOS message	
DMA-2 Error	Error during read/write test of the secondary DMA controller.
DMA Controller Error	Error during read/write test of the DMA controller.
Checking NVRAM..Update Failed	Unable to write to the NVRAM block. This message appears when the FLASH part is write-protected or if there is no FLASH part (System uses a PROM or EPROM).
Microcode Error	Unable to find or load the CPU Microcode Update to the CPU.
NVRAM Checksum Bad, NVRAM Cleared	Error while validating the NVRAM data.
Resource Conflict	More than one system device is trying to use the same non-shareable resources (Memory or I/O).
NVRAM Ignored	The NVRAM data used to store plug-and-play (PnP) data was not used for system configuration in POST.
NVRAM Bad	The NVRAM data used to store Plug'n'Play (PnP) data was not used for system configuration in POST due to a data error.

Error message	Description
Static Resource Conflict	Two or more Static Devices are trying to use the same resource space (usually Memory or I/O).
PCI I/O conflict PCI ROM conflict PCI IRQ conflict	An I/O resource conflict was detected.
PCI IRQ routing table error	Unable to route an IRQ to the PCI device.
Timer Error	An error occurred while programming the count register of channel 2 of the 8254 timer.
Interrupt Controller-1 error	The Master Interrupt Controller could not be initialized.
Interrupt Controller-2 error	The Slave Interrupt Controller could not be initialized.
CMOS BIOS message	
CMOS Date/Time Not Set	The date and/or time values stored in the CMOS are invalid. Run Setup to set correct values.
CMOS Battery Low	The battery maybe losing power. Replace the battery soon.
CMOS Settings Wrong	CMOS values are not the same as the last boot. These values have either been corrupted or the battery has failed.
CMOS Checksum Bad	The CMOS checksum is incorrect. CMOS memory may have been corrupted. Run Setup to reset values.
USB BIOS error messages	
Warning! Unsupported USB device found and disabled!	A non-bootable USB device is enumerated and disabled.
Warning! Port 60h/64h emulation is not supported by this USB Host Controller!	The port 60h/64h emulation mode cannot be enabled for this USB host controller.

Error message	Description
Warning! EHCI controller disabled. It requires 64bit data support in the BIOS.	The EHCI controller is disabled because of incorrect data structure. This condition occurs if the USB host controller needs 64-bit data structure while the USB is ported with 32-bit data structure.
Miscellaneous BIOS messages	
Keyboard Error	Error in the keyboard connection. Make sure keyboard is connected properly.
Keyboard/Interface Error	Keyboard interface test failed.
PS2 Keyboard not found	PS2 keyboard was not detected.
PS2 Mouse not found	PS2 mouse was not detected.
Unlock Keyboard	PS2 keyboard is locked. To continue BIOS POST, unlock the keyboard.
System Halted	Reset to reboot the system.
Not enough space in Runtime area!!. SMBIOS data will not be available.	The size of the SMBIOS data exceeds the available SMBIOS runtime storage size.

POST error messages

The following table lists the error codes and associated conditions that may occur during the POST portion of the BIOS.

Error code	Description
0000	Timer error
0003	CMOS battery low
0004	CMOS settings wrong
0005	CMOS checksum bad
0008	Unlock keyboard
0009	PS2 keyboard not found
000A	KBC BAT test failed
000B	CMOS memory size different
000C	RAM R/W test failed
000E	A: drive rrror
000F	B: drive error
0010	Floppy controller failure
0012	CMOS date/time not set
0014	PS2 mouse not found
0040	Refresh timer test failed
0041	Display memory test failed
0042	CMOS display type wrong
0043	<Ins> key pressed
0044	DMA controller error
0045	DMA-1 error

Error code	Description
0046	DMA-2 error
0047	Unknown BIOS error. Error code = 147 (this is really a PMM_MEM_ALLOC_ERR)
0048	Password check failed
0049	Unknown BIOS error. Error code = 149 (this is really SEGMENT_REG_ERR)
004A	Unknown BIOS error. Error code = 14A (this is really ADM_MODULE_ERR)
004B	Unknown BIOS error. Error code = 14B (this is really LANGUAGE_MODULE_ERR)
004C	Keyboard/Interface error
004D	Primary master hard disk error
004E	Primary slave hard disk error
004F	Secondary master hard disk error
0050	Secondary slave hard disk error
0055	Primary master drive - ATAPI incompatible
0056	Primary slave drive - ATAPI incompatible
0057	Secondary master drive - ATAPI incompatible
0058	Secondary slave drive - ATAPI incompatible
0059	Third master device error
005B	Fourth master device error
005D	S.M.A.R.T. status BAD, backup and replace
005E	Password check failed
0120	Thermal failure due to PROCHOT#
0146	Insufficient memory to shadow PCI ROM

Error code	Description
0150	BSP processor failed BIST
0160	Processor missing microcode – P0
0161	Processor missing microcode – P1
0180	BIOS does not support current stepping – P0
0181	BIOS does not support current stepping – P1
0192	L2 cache size mismatch
0193	CPUID, processor stepping are different
0194	CPUID, processor family are different
0195	Front side bus mismatch
0196	CPUID, processor model are different
0197	Processor speeds mismatched
5120	CMOS cleared by jumper
5121	Password cleared by jumper
51A2	System cover has probably been opened.
51A3	System has probably been shut down with the CPUTHRMTRIP# event.
8104	Warning! Port 60h/64h emulation is not supported by this USB host controller !!!
8105	Warning! EHCI controller disabled. It requires 64bit data support in the BIOS.
84FF	System event log full
8500	Bad or missing memory in slot 3A
8501	Bad or missing memory in slot 2A
8502	Bad or missing memory in slot 1A

Error code	Description
8504	Bad or missing memory in slot 3B
8505	Bad or missing memory in slot 2B
8506	Bad or missing memory in slot 1B
8508	All memory marked as failed. Force all memory back online.

POST beep codes

The following table lists the error beep codes. Prior to system video initialization, BIOS uses these beep codes to inform users of error conditions. The beep code occurs only when a critical error occurs or when the BIOS fails to boot to the operating system. Not all error conditions are supported by the BIOS beep codes.

Number of beeps	Description
1	Memory refresh timer error
2	Parity error in base memory (first 64KB block)
3	Base memory read/write test error
4	Timer not operational
5	Processor failure
6	8042 GateA20 cannot be toggled (memory failure or not present)
7	Exception interrupt error
8	Display memory R/W error
9	ROM checksum error
10	CMOS shutdown register test error
11	Cache memory test failed

Troubleshooting BIOS beep codes

The following table lists the possible beep codes thay may occur while using the system and is followed by solutions to the situation.

Number of beeps	Troubleshooting action
1, 2, or 3	• Make sure the memory modules are properly seated on the DIMM slots. • Make sure the memory modules comply with the system requirements. • Make sure the memory modules have been populated according to the system requirements.
4-7, 9-11	• Indicates a fatal error. Consult your system manufacturer. • If beep codes are generated even when all PCI cards are absent, consult your system manufacturer's technical support. • Check for a malfunctioning add-in card. If beep codes are not generated when all PCI cards are absent, one of the add-in cards is causing the malfunction. Insert the cards back into the system one at a time until the problem happens again.
8	• Make sure the video adapter is properly seated on the expansion slot. • If the video adapter is an integrated part of the mainboard, the board may be faulty.

Appendix A: System management utility

This appendix shows you how to install the ASM software package and gives information about the software program and utilities bundled with your server.

Your Altos G5350 server supports the following system management utilities:

- ASM (Acer Server Manager)

  This utility allows you to spot errors or potential trouble spots in the network servers through a single management station. For details go to page 147.

- RAID configuration

  The system may be bundled with a SCSI or SATA RAID configuration utility. These utilities let you change the RAID configuration of your SCSI or SATA hard disk. For details go to page 149.

ASM

Acer Server Manager is a server management tool. It is specially designed to help spot errors or potential trouble spots in the network servers through a single management station. ASM can send a query to a remote server over the network to request information such as system hardware and software configuration, system resource usage, and system performance.

The complete ASM package consists of two major components — the ASM Agent and the ASM Console. The ASM Agent are the servers to be managed on the network. The ASM Console is a Windows-based monitoring station that communicates with the ASM Agents and can be installed on any agent’s workstation on the network.

System requirements

ASM requires TCP/IP connectivity between the ASM Agent and the ASM Console.

ASM Agent

- Intel Pentium 4 (800 MHz), Intel Xeon (800 MHz), AMD Opteron (1000 MHz) or higher processor
- 512 MB of RAM
- SCSI/SATA hard drive with at least 100 MB free hard disk space
- Microsoft Windows 2003 Server/Advanced Server operating system

ASM Console

- Intel Pentium 4 (800 MHz), Intel Xeon (800 MHz), AMD Opteron (1000 MHz) or higher processor
- 256 MB of RAM
- SCSI/SATA hard drive with at least 100 MB free hard disk space
- Microsoft Windows 2003 Professional/XP/Server/Advanced Server operating system

System setup

Make sure that the system meets the requirements listed above before proceeding. You may also want to change your screen resolution to 800 x 600 or higher for optimum viewing.

Installing ASM Agent

Follow the steps below:

1. Log in to the managed server using the Administrator account.
2. Insert the EasyBUILD Management CD into the server's CD-ROM drive. The installation sequence will automatically be displayed.
3. Select the option for ASM installation. The installation wizard will be initialized.
4. Follow all onscreen instructions to complete the installation.

   For detailed instructions on installing ASM Agent, refer to the ASM User's manual.

To launch the program, on the Windows taskbar click on the **Start** button, point to **Programs**, select **Acer Server Management Suite** then click **ASM Agent**.

Installing ASM Console

Follow the steps below:

1. Log in to the target Windows-based PC using the Administrator account.
2. Insert the EasyBUILD Management CD into the computer's CD-ROM drive. The installation sequence will automatically be displayed.
3. Select the option for ASM installation. The installation wizard will be initialized.
4. Follow all onscreen instructions to complete the installation.

   For detailed instructions on installing ASM Console, refer to the ASM User's manual.

To launch the program, on the Windows taskbar click on the **Start** button, point to **Programs**, select **Acer Server Management Suite** then click **ASM Console**.

RAID configuration

Caution! Using the RAID configuration utility erases all data previously saved in the hard drives. Make sure that you backup important files before starting the configuration process.

SCSI RAID configuration utility

The SCSI RAID configuration utility allows you to change the default RAID configuration, such as the system volume of your SCSI hard disk.

For detailed information on how to use the SCSI RAID configuration utility, refer to “Appendix D: SCSI RAID configuration” on page 173.

SATA RAID configuration utility

The SATA RAID configuration utility allows you to change the default RAID configuration, such as system volume of your SATA hard disk.

For detailed information on how to use the SCSI RAID configuration utility, refer to “Appendix C: SATA RAID configuration” on page 167.

Appendix B: Acer Altos G530 rack installation guide

This appendix shows you how to set up the Altos G5350 server in a rack mount configuration.

Setting up the system rack

Important! Observe the electrostatic discharge (ESD) precautions indicated on page 35 when perfoming the following procedures. Do not attempt the procedures described in the following sections unless you are a qualified technician.

Equipment rack precautions

Follow the rack manufacturer's safety and installation instructions for proper rack installation.

The following additional rack safety installation measures should be considered:

- Anchor the equipment rack

  The equipment rack must be anchored to an unmovable suitable support to prevent the rack from falling over when one or more systems are fully extended out of the rack assembly. You must also consider the weight of any other devices installed in the rack assembly. The equipment rack must be installed according to the manufacturer's instructions.
- Main AC power disconnect

  You are responsible for installing an AC power disconnect for the entire rack unit. This main disconnect must be readily accessible, and it must be labeled as controlling power to the entire unit, not just to the system(s).
- Earth ground the rack installation

  To avoid the potential for an electrical shock hazard, the rack assembly itself must be suitably earth grounded, according to your local regional electrical codes. This typically will require the rack to have its own separate earth ground. We recommend you consult your local approved electrician.

- Elevated operating ambient temperature

  The maximum operating temperature of the system is 35 °C (95°F). Careful consideration should be given to installing the system in an environment compatible with the 35 °C (95°F) maximum ambient temperature.

- Reduced airflow

  The amount of airflow required for the safe operation of the equipment should not be compromised when installing the system in a rack.

- Mechanical loading

  Exercise care when mounting the system in a rack to avoid any accidents.

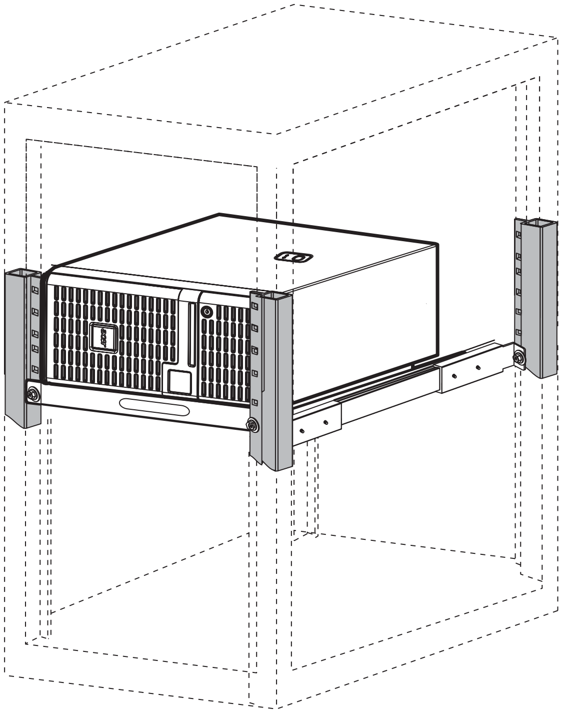
- Circuit overloading

  Appropriate consideration should be given when connecting the supply circuit to the system to avoid any circuit overload. The system name plate rating should be used when addressing concerns about circuit overload.

System rack installation

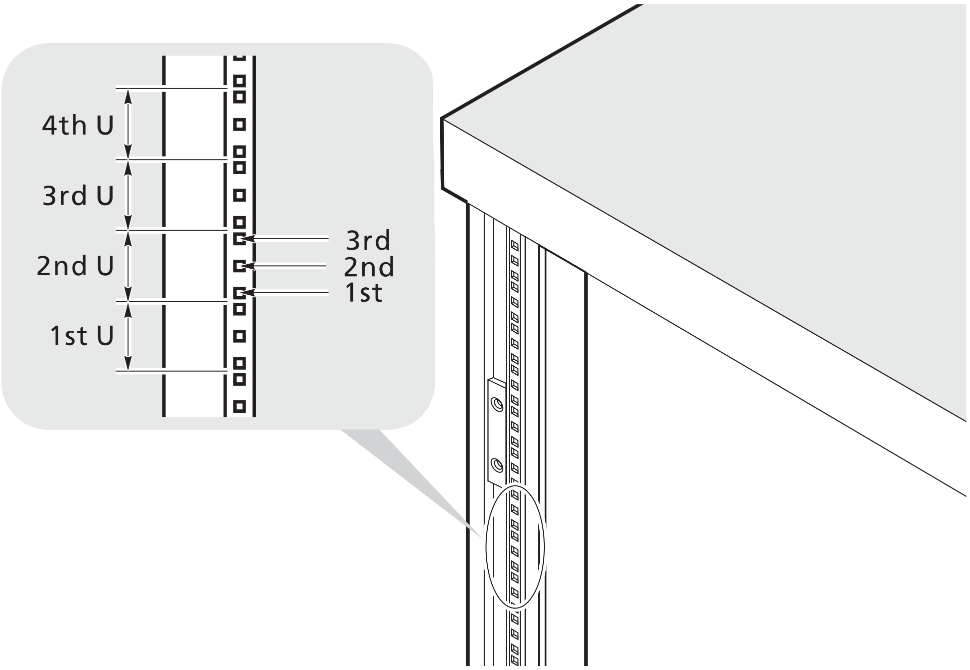
The Altos G5350 server system can also be mounted in a rack-model position. A rack mount kit is available for customers who want to convert a tower-mounted system to rack-model design. To purchase a rack mount kit, contact your local Acer representative or order directly from http://www.acer.com/.

The figure below shows the Altos G5350 server in a rack-mount position.



Vertical mounting hole pattern

The four vertical rails of the system rack contain mounting holes arranged in a manner shown in the figure below:



The system occupies 5U in the rack. Count the U positions and hole numbers from the bottom up.

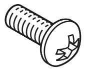
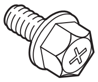
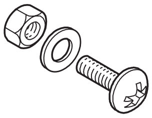
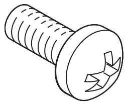
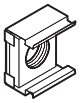
The distance from the center of two holes with closer spacing to the center of the next pair is equivalent to 1U.

Note: The unit of measurement used in this guide is "U" (1U = 1.75 inches or 44.45 mm). The total sum of the heights of all components in the rack measured in "U" cannot exceed the height of the rack. For more information, refer to the documentation that came with the system rack.

When installing components, you must start your measurement from the center of the two holes with closer spacing. Otherwise, the screw holes on the component may not match those on the rack.

Screw types used

The following screws are used in the assembly of the Altos G5350 system and bundled rack-mountable components:

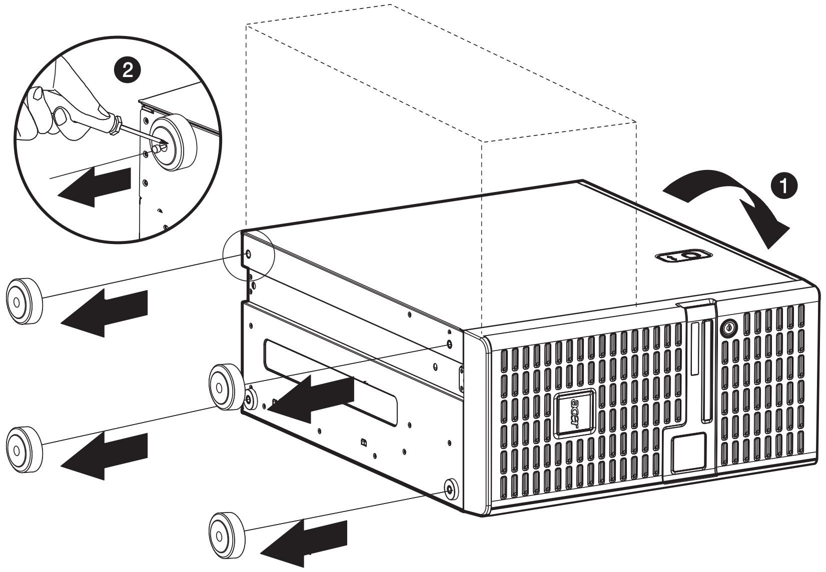
Screw type and part number	Figure	Usage
#8-32 x 0.25 inch		Securing the inner mounting rails to the system
Hex head #6-32 0.25 inch		Securing the side handles to the server
M4 x L8 M4 nut		Securing the mounting brackets to the inner sliding piece
M6 x L10		- Securing the cable arm to the rack - Securing the component rail to the rack - Securing the system components to the rack
M6 cage nut		Supports the M6 metal screws for securing system components to the rack

Installing the system into the rack

Caution! To minimize the chances of injuries, make sure that two or more people help in installing the server.

To install the system into a four-post rack

1. Remove the foot stands from the server.
   (1) Lay the server on its side on a flat, stable surface **(1)**.
   (2) Remove the screws that hold the foot stands to the bottom of the chassis **(2)**. Keep these for later use.
   (3) Pull the stands from the server.

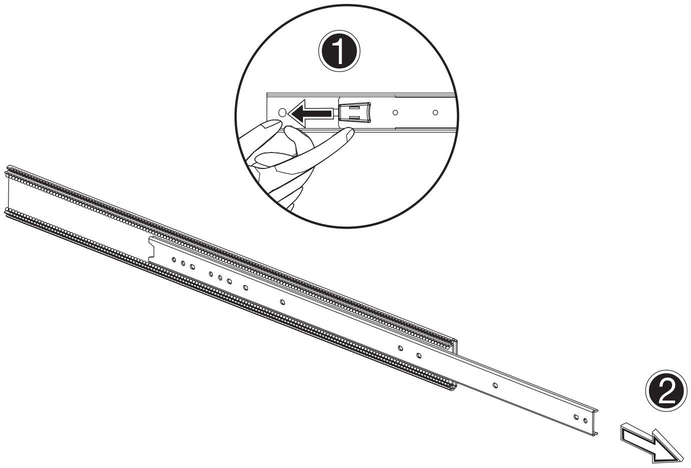


2 Remove the inner rails from the mounting rails.

Note: The rack mount kit contains a pack of screws, two sets of side handles, rack brackets and mounting rails. The side handles are attached to the sides of the server. The rack brackets attach the mounting rails to the server. The mounting rails allow the server to slide in and out of the rackmount for maintenance purposes. Each mounting rail consists of: an inner rail, a middle slide, and a fixed outer rail. The fixed outer piece is screwed onto the rack bracket with a M4 x L8 metal screw and nut, the inner rail is attached to the sides of the server with the #8-32 screws and the middle sliding piece controlled by a steel ball gearing movement.

(1) Extend the inner rail from the mounting rail until the rail release latch clicks.

(2) Depress the release latch **(1)** and slip the inner rail out **(2)**.

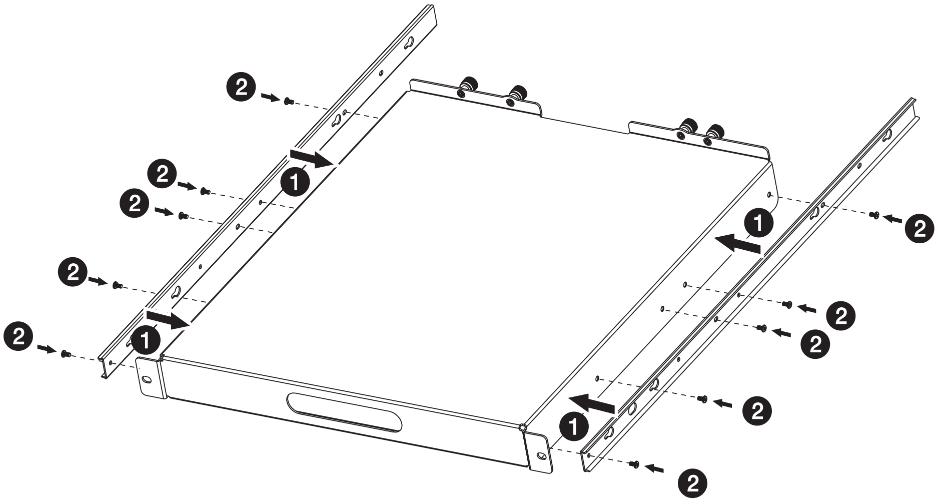


(3) Do the same thing to the other mounting rail.

3 Attach the inner rails to the mounting shelf.

(1) Align the inner rails to both sides of the mounting shelf **(1)**.

(2) Secure the rails to the mounting shelf using ten #8-32 screws (see page 157) **(2)**.

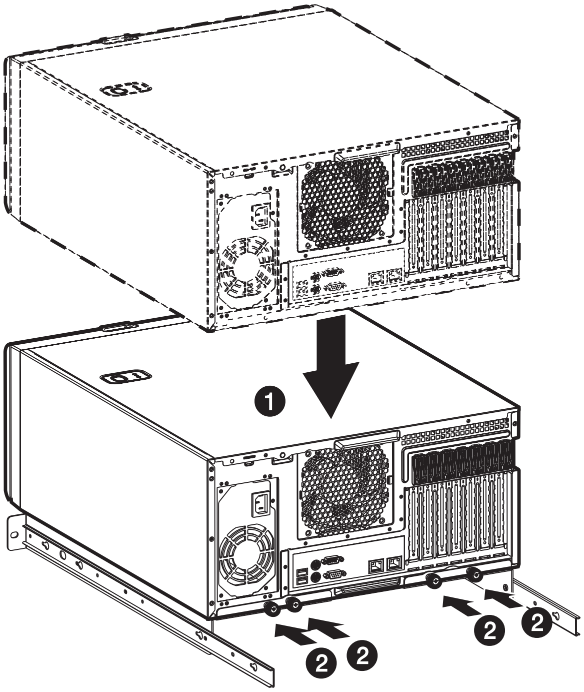


4 Install the server into the mounting shelf.

Caution! To avoid personal injury, care should be taken when pressing the inner rail release latches and sliding the component into the rack.

(1) Place the server on the mounting shelf **(1)**.

(2) Tighten the four thumbscrews on the rear of the mounting shelf **(2)**.

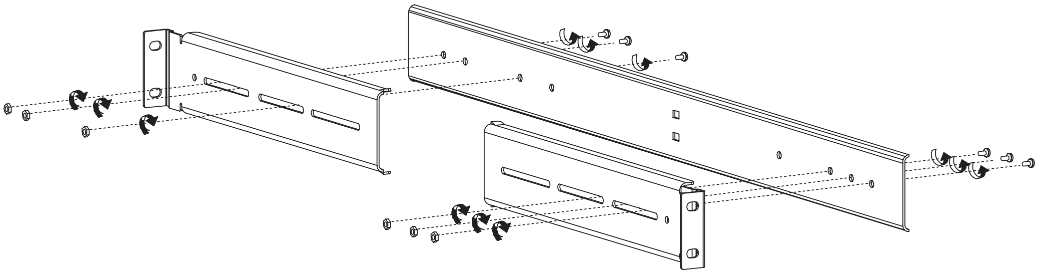


5 Install the rack brackets to the rack by following the steps below:

(1) Align the rack brackets to the mounting rail until the six screw holes become visible.

(2) Secure the rack brackets to the mounting rails using six M4 x L8 metal screws and nuts (see page 157).

Tighten the screws but leave them loose enough to allow length adjustment when installing the mounting rails to the rack.



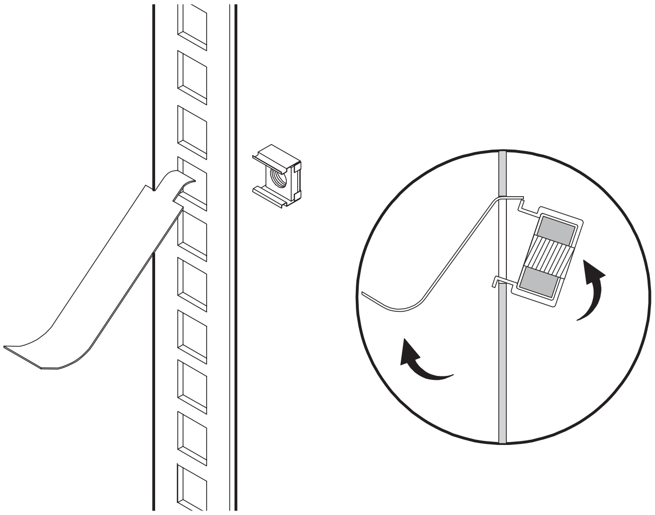
(3) Attach the other rack brackets to the remaining mounting rail.

6 Install the M6 cage nuts (see page 157) into the rail.

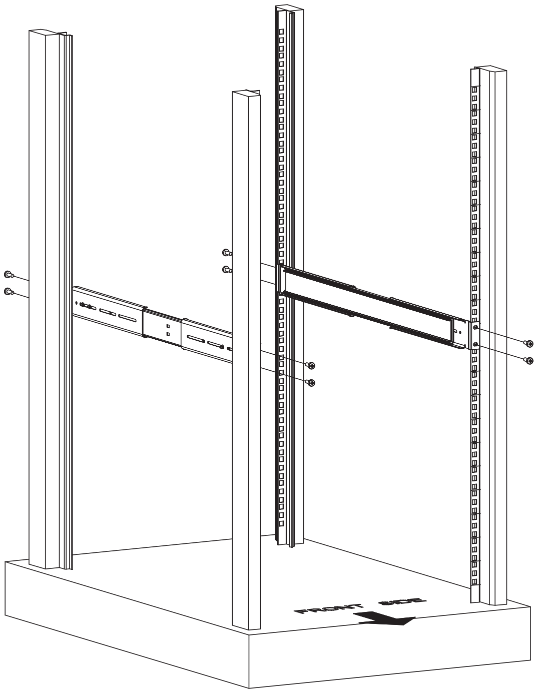
(1) Insert the lower lip of the cage nut over the bottom of the opening at the back of a rail.

(2) With your fingers, pinch the cage nut rack fastener and push in until the top lip locks into position.

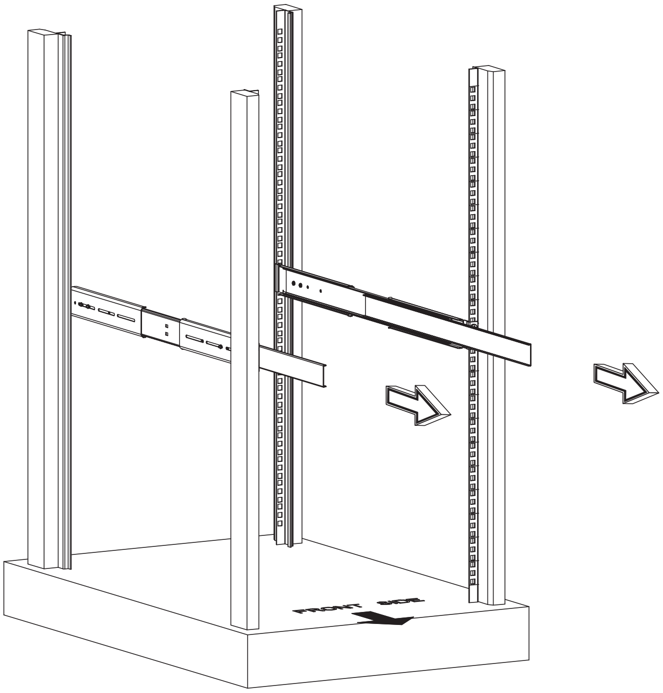
(3) Repeat this process to install the other cage nuts in their appropriate locations.



7 Install the mounting rails to the rack by using four M6 x L10 metal screws (see page 157) for each mounting rail.



8 Extend the middle sliding piece of each mounting rail forward until you hear a click sound.



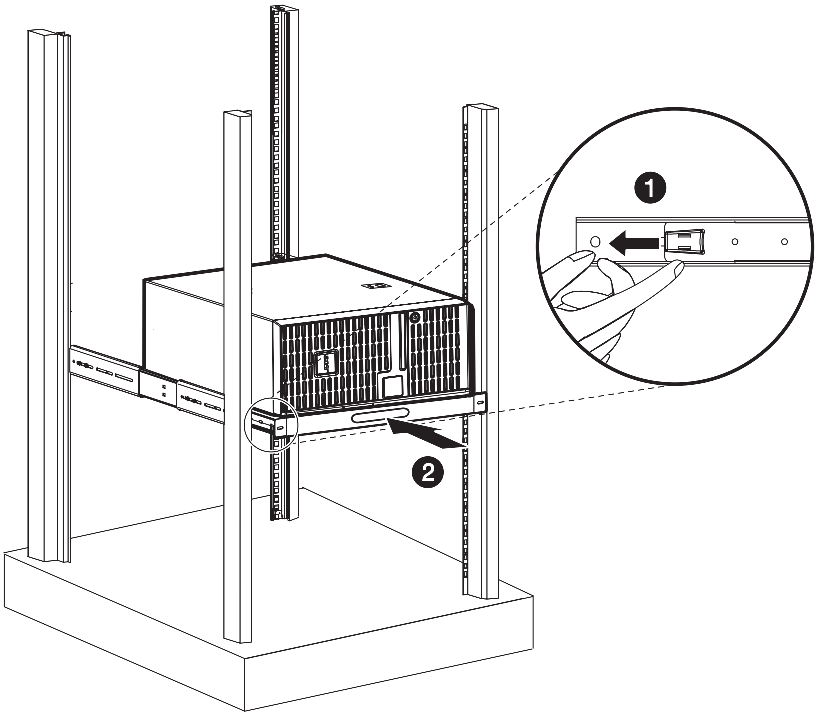
9 Install the server shelf assembly into the rack.

Caution! To avoid personal injury, care should be taken when pressing the inner rail release latches and sliding the component into the rack.

(1) Carefully align the inner rails attached to the mounting shelf with the fully extended mounting rails on the rack.

(2) Press the release latch on both sides of the mounting shelf **(1)**.

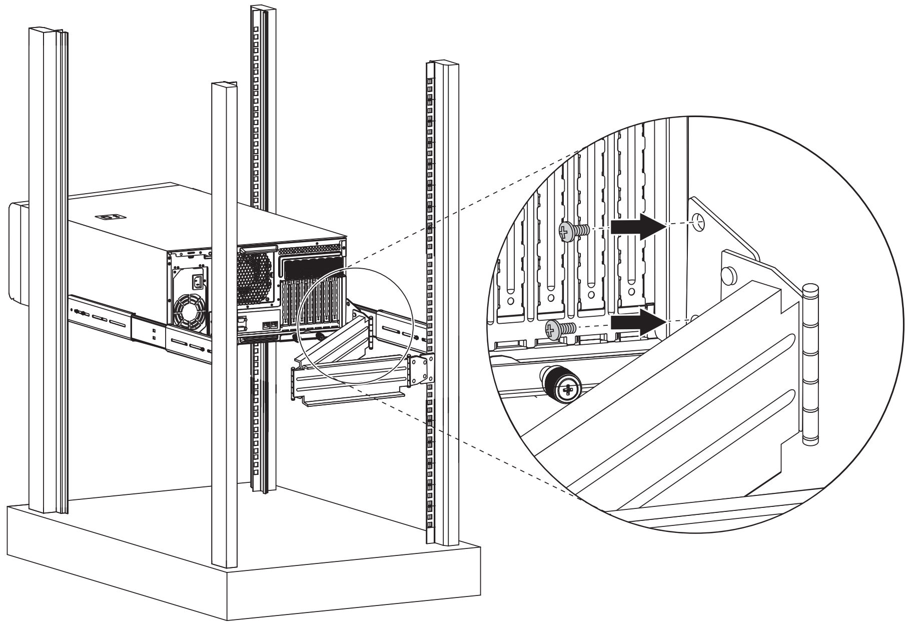
(3) Slide the mounting shelf into the rack, then push the mounting shelf into the rack until you hear a click sound **(2)**.



10 Attach the cable arm to the system.

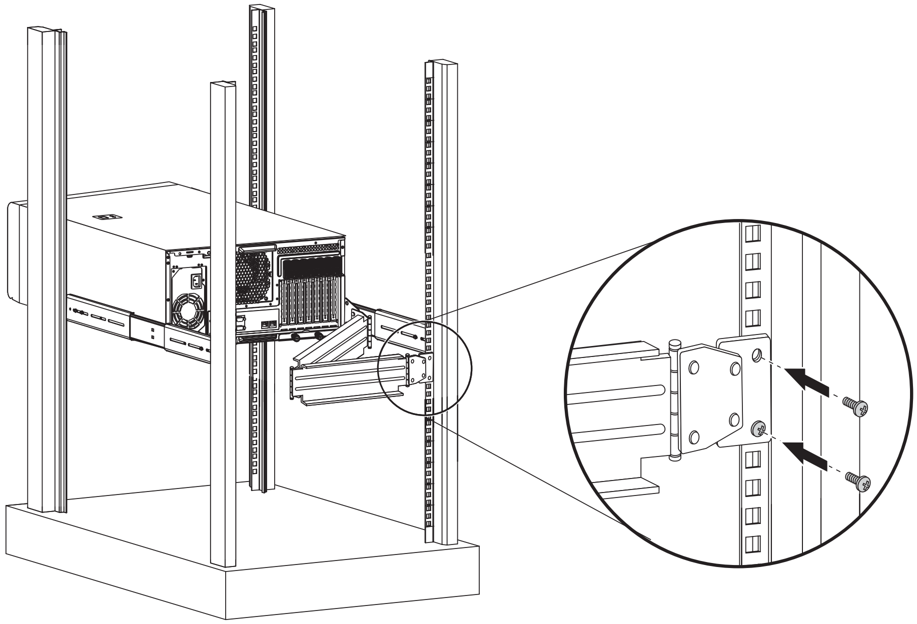
The optional cable carm allows you to tie-wrap all cables to and from the system. As you slide the system in and out of the rack, the cable arm collapses and extends, keeping the cables untangled and attached to the system.

(1) Attach the cable arm to the rear of the system using two M4 x L8 metal screws and nuts (see page 157).



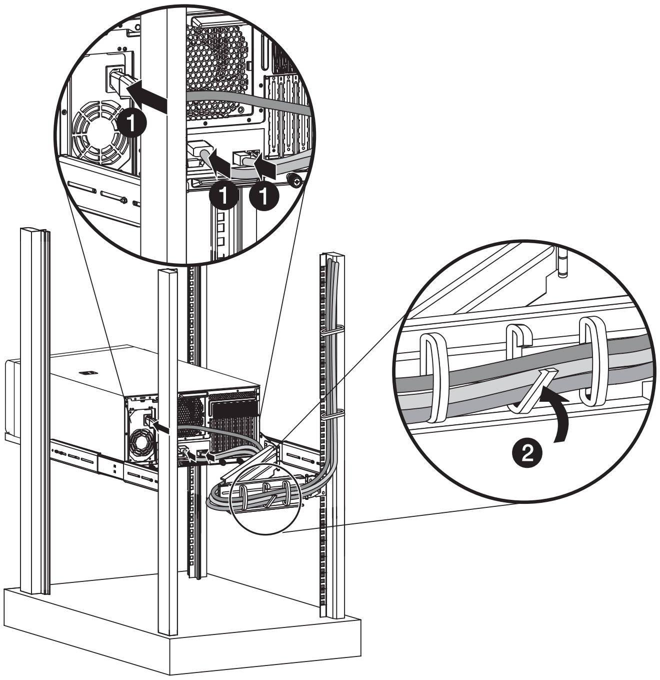
(2) Install two cage nuts into the rail to which the cable arm is to be attached.

(3) Extend the cable arm enough to attach it to the rail using two M6 x L10 metal screws (see page 157).



(4) Connect the power, peripheral and networking cables into their appropriate ports **(1)**.
Refer to “Connecting peripherals” on page 26 for detailed instructions.

(5) Bundle all cables to the cable arm using the cable clamps **(2)**.



Appendix C: SATA RAID configuration

This appendix shows you how to create a RAID volume in your SATA drives.

Configuring the SATA RAID

This section shows how to create a RAID 1 (mirror) volume with the onboard SATA RAID function. This feature requires the installation or presence of a Intel 6300ESB ICH I/O controller.

Enabling the onboard SATA RAID function

1 Load the BIOS default settings
    a During bootup, press **F2** to enter the BIOS setup screen.
    b Press **F9** to restore the default settings.
    c Press **F10** to save changes and exit setup.
2 Enable the onboard SATA RAID function
    a In the BIOS setup screen, select **Advanced**.
    b Select **IDE Configuration**, then press **Enter**.
    c Select **Configure S-ATA as RAID**, then press **Enter** to change option to Enabled.
    d Press **F10** to save changes and exit setup.

Using the SATA RAID configuration utility

Turn on the system. When prompted, press **Ctrl+E** to enter the Embedded RAID configuration utility.

Loading the SATA RAID default setting.

1 In the Management menu, select **Objects**, then select **Adapter**. The current adapter settings appear.
2 Select **Factory Default**, then **Yes** to load the default settings.
3 Press **Ctrl+Alt+Del** to reboot the server.

Creating a RAID 1 volume

1. After rebooting the server, press **Ctrl+E** to enter the SATA RAID Configuration screen. The Management menu appears.
2. Select **Configuration**. The Configuration menu appears.
3. Select **New Configuration**, then select **YES**. An array selection window displays the devices connected to the current controller.
4. Use the arrow keys to select a specific drive, then press the spacebar to associate the selected drive with the current array.

   In the menu, the selected drive's indicator will change from `READY` to `ONLINE A`[array number]-[drive number].
   For example ONLINE A1-2 means disk drive 2 in array 1.
5. Add two drives to the current array, then press **Enter**.
6. To select an array to configure, press **Enter**.
7. Press **F10** to configure the logical drives. The default RAID level for 2 disk drives is RAID 1.
8. Select **Accept** to use t he default setting, then press **Enter**. The Array Selection menu appears.
9. Press **Enter** again to end the array configuration.
10. Select **YES to Save Configuration**, and press any key to return to the Configuration menu.

Initializing a RAID volume

1. Press **Esc** to return to the Management menu.
2. Select **Initialize**. All logical drives will appear under Logical Drives.
3. Using the spacebar, select the drive that you want to initialize. The selected drive becomes yellow.
4. Press **F10**, then select **YES** to start initialization.
5. When initialization is complete, press any key to continue.
6. Press **Esc** to return to the Management menu.
7. To exit the utility and reboot the server, follow the steps below:
   (a) In the Management menu, press **Esc**.
   (b) Select **YES**.

(c) Press **Ctrl+Alt+Del** to reboot the server.

8 Install an Operating System to the RAID array.

Appendix D: SCSI RAID configuration

This appendix shows you how to create a RAID volume in your SCSI drives.

Configuring the SCSI/SCSI RAID HBA

This section shows how to create a RAID 1 (mirror) volume. This feature requires the installation or presence of a LSI Logic 1020A SCSI controller.

Using the SCSI HBA setup utility

During bootup, press **Ctrl+C** to enter the LSI Logic Configuration screen.

Loading the HBA default settings

1. In the LSI Logic MPT SCSI setup screen, press **F2**.
2. Select **Global Properties**, then select **Restore Defaults**.
3. Press **Esc**, then select **Save changes then exit this menu**.
4. Select **53C1020/53C1030**, then press **Enter**.
5. Select **Restore Defaults**, then press **Enter**.
6. Press **Esc**, then select **Save changes then exit this menu**.

Using the SCSI RAID HBA setup utility

Creating a RAID 1 volume with a hot spare disk

1. In the LSI Logic MPT SCSI setup screen, select **53C1020/53C1030**, then press **Enter**.
2. Select **RAID Properties**, then press **Enter**.
3. In the Array Disk field, press the spacebar.

   If you change the settings in the Array Disk field, the following messages appear:

   ```
   F3 - Keep Data (Create 2 disk arrays)
   ```

   ```
   Delete - Erase Disk (Create 2 to 6 disk arrays)
   ```
4. Press the **Delete** key to erase all data on the screen.
5. In the Hot Spare field, press the spacebar.

If you change the settings in the Hot Spare field, the following messages appear:

`WARNING: Data on drive will be LOST!`

`Press DELETE if data loss OK or any other key to cancel.`

6 Press the **Delete** key to ignore.

7 Press **Esc**, then select **Save changes then exit this menu**.

8 To close the utility and reboot the server, follow the steps below:

  (1) Press **Esc**, then select **Exit the Configuration Utility**. The *`Global properties saved. Hit any key to reboot`* message appears.

  (2) Press any key to reboot the server.

RAID volume initialization

After you create the RAID volume and saved the changes, the disk controller will automatically initialize the RAID volume. LSI Logic 1020A supports background initialization, there's no need to wait for the initialization to complete. Close the LSI Logic Configuration Utility after saving the changes.

Using the MegaRAID configuration utility

Turn on the system. When prompted, press **Ctrl+M** to enter the MegaRAID configuration utility. After a few seconds, the Management menu appears.

Loading the RAID card default setting

1 In the Management menu, select **Objects**, then select **Adapter**. The current adapter settings appear.

2 Select **Factory Default**, then **Yes** to load the default settings.

3 Press **Ctrl+Alt+Del** to reboot the server.

Creating a RAID 1 volume

1 After rebooting the server, press **Ctrl+M** to enter the MegaRAID Configuration screen. The Management menu appears.

2 Select **Configuration**. The Configuration menu appears.

3 Select **New Configuration**, then select **YES**. An array selection window displays the devices connected to the current controller.

4 Use the arrow keys to select a specific drive, then press the spacebar to associate the selected drive with the current array.

In the menu, the selected drive's indicator will change from `READY` to `ONLINE A`[array number]-[drive number].
For example ONLINE A1-2 means disk drive 2 in array 1.

5 Add two drives to the current array, then press **Enter**.

6 Press **F10** to configure the logical drives. The default RAID level for 2 disk drives is RAID 1.

7 Select **Accept** to use the default setting, then press **Enter**.

8 Press **Enter** again to end the array configuration.

9 Select **YES to Save Configuration**, and press any key to return to the Configuration menu.

Assigning a hot spare disk

1 In the Configuration menu, select **Add/View Configuration**.

2 Use the arrow keys to select a specific drive, then press **F4** to set the drive as a hot spare disk.

3 Select **YES**. In the menu, the selected drive's indicator will change from *`READY`* to *`HOTSP`*.

4 Press **Esc** to end the array configuration.

5 Select **YES to Save Configuration**, then press any key to return to the Configuration menu.

Initializing a RAID volume

1 Press **Esc** to return to the Management menu.

2 Select **Initialize**. All logical drives will appear under Logical Drives.

3 Using the spacebar, select the drive that you want to initialize. The selected drive becomes yellow.

4 Press **F10**, then select **YES** to start initialization.

5 When initialization is complete, press any key to continue.

6 Press **Esc** to return to the Management menu.

7 To exit the utility and reboot the server, follow the steps below:

    (a) In the Management menu, press **Esc**.

    (b) Select **YES**.

    (c) Press **Ctrl+Alt+Del** to reboot the server.

8 Install an Operating System to the RAID array.

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